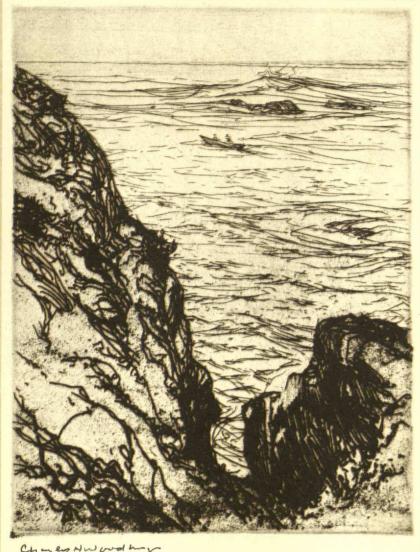
The May TECHNOLOGY



Chan es Hw owd how

RELATING TO THE MASSACHUSETTS INSTITUTE OF TECHNOLOGY

technology review

Published by MIT

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How civilized are we?

"THE extent to which the world has changed the laborer who uses his body into the workman who uses his head, is the index of civilization."

So said Edward Everett Hale.

Electricity is gradually substituting its untiring energy for muscular effort in every branch of industry; it needs only to be directed by human intelligence. Its use is, therefore, a significant "index of civilization."

In the measure that America's industrialists appreciate and adopt the economic advantages of electric power, light, and heat, and keep in closest touch with the rapid advance of all electrical applications, they advance the national standard of civilization and increase the revenue of their business.

Perhaps the time will come when we can point to completely electrified industry as our answer to the question "How civilized are we?"



This civilizing process has begun in homes as well as in factories—but it has only begun. There are millions of dwellings in which there are as yet no electrical appliances to take the place of muscular work. The General Electric Company is devoting all its resources of research and manufacture to the extension of electrical service in every activity of life. Its specialists will cooperate with you in the application of electricity to your needs.



GENERAL ELECTRIC

The Class of 1928
Will Share in Developing
Technology's Future

Q This Class has chosen a combination life insurance and endowment insurance plan that will enable it to present \$75,000 to the Institute at its 25th Reunion in 1953. Those members who are joining their classmates in the furtherance of the project are to be congratulated upon their interest in the future of the Massachusetts Institute of Technology. Q To sponsor this plan the Class has chosen an organization with a record of 85 years of service to its policyholders — The Mutual Life Insurance Company of New York, the oldest life insurance company in America.

Charles F. Tancred Special Agent

The Mutual Life Insurance Company of New York, Boston, Massachusetts

Boston, Massachusetts

1 Milk Street

Boston, Massachusetts

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NITE Night Message

NL Night Letter

LCO Deferred

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WIT Week End Letter

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TECHNOLOGY REVIEW

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IN YOUR JULY ISSUE STOP COMPLETING DEVELOPMENTS
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The TECHNOLOGY REVIE

Relating to the Massachusetts Institute of Technology

VOLUME 30



NUMBER 7

Contents for May, 1928

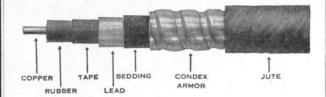
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YOUR ATTENTION IS INVITED -

to page 455 of this issue of The Review. There you will find a feature that is as old as the "News from Classes" section, as old as The Review itself. There you will find the dignified card of fourteen individuals and firms who offer you their professional services.

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A practical cable to use for underground service.

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The Tabular View

AST month comment was made on the far flung circulation of The Review: copies regularly go into more than thirty foreign countries, into every American state and nearly every possession. It follows that a circulation so widespread attracts advertising from many fields. An examination of The Review's advertising list shows almost every type of commodity and institutional advertising that is of interest to a circulation predominantly male. Of course advertising of an engineering and scientific nature takes first place, but in addition is a diversified list that includes shoes and ships and sealing wax; garters, suits, and correspondence courses; preparatory schools, travel agencies, and professional services; and so on down the whole scale. I Eighty-four different firms or individuals have inserted advertisements to date in this current volume of The Review. This figure, not including the July issue, represents an increase of twenty-four over the entire preceding volume (1926-1927) and of fifteen over the largest number in the highest previous volume (1923-1924). Only nine of last year's list dropped out, so the present figure includes thirty-five accounts new since last volume.

ONTRIBUTORS to this issue of The Review include the Assistant Secretary of the Navy for Aëronautics, two professors at the Institute, a naval architect, and a manufacturer. ¶ The Hon. EDWARD P. WARNER, '17, is on leave of absence as Head of the Department of Aëronautical Engineering at the Institute while he is acting as Assistant Secretary of the Navy for Aëronautics.

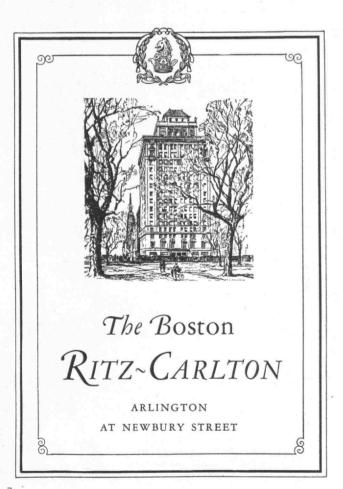
Murray P. Horwood, '16, is Assistant Professor of Biology. He contributes a book review discussing the growth of population. ¶ MILES S. SHERRILL, '99, is Professor of Theoretical Chemistry. He reviews "The World of Atoms" by Arthur Haas. Professor Sherrill recently gave a Popular Science Lecture on "Facts and Fancies Concerning the Structure of the Atom." ¶ J. W. Powell who writes the Report on Naval Architecture and Marine Engineering, is Chairman of the Visiting Committee of that Department. He has long been interested in shipbuilding and naval architecture. A. FARWELL BEMIS, '93, of the Executive Committee of the Corporation, and Chairman of the committee of twelve appointed to study the dormitory situation at the Institute, prepared the report published on page 411.

AT all times The Review Editors welcome criticism and comment directed at the contents of the magazine. At best the editorial point of view is a worm's eye view; it is difficult to visualize panoramically the world of the reader in all its varied and unsuspected aspects, and consequently difficult to load and aim editorial matter so that it will be most effective. Criticism from readers has prompted many new features in The Review and it has deleted others; always it has contributed toward the betterment of the magazine. It is guaranteed that all letters resulting from this confession will be read and even answered.

IOHN HANCOCK SERIES WIVES of BUSINESS MEN HE difference between office and THE difference between the household economy often causes astonishment and confusion to business men. Their wives mean well, but as for method-! The household budget is the answer. We have sent thousands of our budget sheets to wives who have attacked this To business men who care about ordered and reasonable expenditure and saving—that is, the introduction of business methods into the home—we recommend the John Hancock Home Budget Your local John Hancock office will be glad to send you a copy, or one can be obtained by writing to INQUIRY BUREAU Hancoc

197 CLARENDON STREET, BOSTON, MASS.

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9 CLIENTS 73 CONTRACTS VALUE \$180,000,000

Work now in progress brings our total for the following clients to \$180,000,000.

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Central Indiana Power Company
The Edison Electric Illum'g Co. of Boston
Ford Motor Company
The Hartford Electric Light Company
The Philadelphia Electric Company
Potomac Electric Power Company
Southern California Edison Company
The Western Union Telegraph Company

There are 73 contracts, an average of 8 contracts per client. The list shows the national extent of our service. Some of the work is abroad. Contracts include new power stations both steam and hydroelectric, extension and modernizing of old power stations, the construction of manufacturing plants, service buildings, office buildings, docks and a variety of other work.

STONE & WEBSTER

INCORPORATED



BOSTON, 49 Federal Street NEW YORK, 120 Broadway CHICAGO, First National Bank Bldg. PITTSBURGH, Union Trust Bldg. SAN FRANCISCO, Holbrook Bldg. PHILADELPHIA, Real Estate Trust Bldg.

The TECHNOLOGY

MAY, 1928 VOLUME 30 NUMBER 7

The Trend of Affairs

HILOLOGICALLY as well as educationally, a professorship, the Chair of Humanics, recently endowed and established at the Institute, is of more than passing interest. "Humanics" is defined by the Century Dictionary as "the doctrine or science of human nature or of matters relating to humanity." Few other dictionaries contain the word and when it is included it is classified as "rare." In the official announcement of the subject, it was described as offering "systematic preparation to meet the problems of human relationship in business and industry."

This latest venture of the Institute, certainly new and unique, was recently suggested and endowed by William E. Nickerson, '76, Vice-President of the Gillette

Safety Razor Company. To teach this somewhat tenuous but vital subject, the Institute has secured Charles R. Gow, consulting engineer of Boston, inventor of the Gow caisson method of installing foundations, and a special lecturer on Foundations at Technology from 1913-20. Aside from his engineering activities, Dr. Gow has participated actively in civic and governmental affairs and has taken part in the solution of problems involving industrial relations. He is also the author of a great variety of articles on economics and related topics. As now planned, the subject will be given, beginning next autumn, to students in their third and fourth years.

S. R. O.

N 1913 Technology inaugurated graduate instruction in aëronautical engineering; in 1926 an undergraduate Course was established; in 1928, the Institute finds on her rolls

forty-six per cent of all the students of aëronautical engineering in the United States. Despite the increased facilities offered by the dedication next month of the Daniel Guggenheim Aëronautical Laboratory, the Corporation, therefore, finds it imperative to place a limitation on the number of undergraduates who may be accepted in order that the highest standards of instruction may be maintained and that students of exceptional promise may be afforded every opportunity for development.

As the pioneer institution in the field of aëronautical engineering education, the Institute aims to train selected men for leadership and original work instead of training a larger group of applicants of lesser ability for

> routine positions. Limitation of numbers will operate to make smaller class groups and will also make for broader research opportunities in important problems of aërodynamics.

In accordance with this policy no restriction is being placed on the number of graduate students. Men transferring into the upper years of Course XVI from other courses or from other colleges will be accepted, providing their records are definitely above the average. Chiefly, the restriction will apply to freshmen registering for the sophomore year.

M. I. T. Photo Service

FORMER ACTING PRESIDENT

Painted by Frank W. Benson, this portrait of Elibu Thomson has been presented to the Institute by the General Electric Company

Gliding

S FAR back as 1922, the Aëronautical Engineering Society designed and built two gliders which were sent to meets at Clermont-Ferrand in France and to Rhön in Germany, and in both instances they were the only Americans to enter the competitions. A crew chosen from among the under-

[399]

graduate members of the Society with Edmund T. Allen, '23, as pilot returned with the bronze medal of the Aëronautique Club de France, for its work in the contest at Clermont-Ferrand. There no less than fifty machines were entered, an impressive array. The Technology glider had the lead at the beginning, but was subsequently passed by the French machines.

Before midsummer, Boston and New England again may see experiments with motorless airplanes. At present the undergraduates of the Aëronautical Engineering Society have under construction a training glider, and plans call for the building of a more delicate model for racing. A recent visit by Robert A. Pope, '02, President of the American Motorless Aviation Club, gave a new impetus to the project. He was accompanied by C. K. Froelich, a Lieutenant of Infantry in the German army during the World War and Major Vergne Chappelle, President of the Greater Brooklyn Flying Club, both of whom are Vice-Presidents of Mr. Pope's organization.

Mr. Froelich announced that three German gliding experts would arrive in this country on April 29, bringing nine gliders of five different designs. These are to be used for exhibition flights throughout the United States, the first demonstrations being held in New England in coöperation with the Institute's Aëronautical Engineering Society.

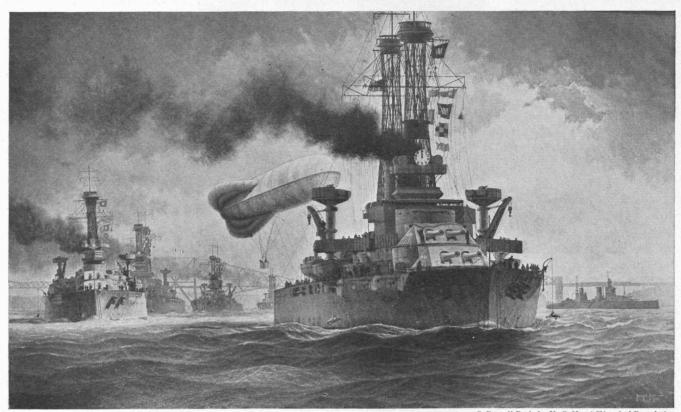
Motorless flying has been more highly developed in Germany than elsewhere due to the limitations imposed by the Treaty of Versailles. The sport is thoroughly organized and flourishes particularly in the Wasserkupfe region. There, due to the air currents in favorably shaped valleys, gliders have maintained soaring flight for more than fourteen hours, traveling from valley to valley, using ascending currents to gain altitude enough to coast through to other valleys. By repeating the process back and forth a single flight has covered a total distance of 300 miles.

Biocinema Laboratory

EMBERS of the Department of Biology and Public Health are at present coöperating with the Eastman Kodak Company in the development of pictures dealing with the subject of respiration and with the circulation of the blood, and designed to be used in the teaching of hygiene and similar subjects.

Beginning in 1921, the Department started the production of a series of biological and public health films designed for educational purposes. A group of three films was initially produced strictly for school use, and these constituted the first contributions of the sort made by an American institution of learning to visual education.

Latterly, while other colleges, notably Harvard University, have engaged themselves similarly, the Institute's Biocinema Laboratory has come to be an important source of educational films and consequently has been occupied with the development of many and varied studies. Films have been prepared dealing with the nature of bacteria, the disposal of sewage, the diphtheria organism, the preparation of antitoxin and



© Burnell Poole for U. S. Naval Historical Foundation

SIXTH BATTLE SQUADRON OF THE GRAND FLEET

First of a series in oils of the United States Navy in the World War painted by Burnell Poole, '06, Lieutenant Commander, U. S. N. R. It depicts the Squadron headed by the U. S. S. New York leaving the Firth of Forth for patrol duty in the North Sea

its use, and with the process of mitotic cell division. The latest film deals with the cleavage of Ambylstoma eggs!

Ice Engineering

TUDY of ice formation indicates the farreaching possibilities of prevention and control to save life and property, Dr. Howard T. Barnes, F.R.S., Professor and formerly Director of Physics at McGill University, said recently in a series of lectures on ice engineering sponsored by the Department of Civil and Sanitary Engineering at the Institute. Dr. Barnes has been studying the physical basis of ice for more than thirty years and in his first lecture on April 10, he discussed the equilibrium of ice and water, the ice-forming power of water, colloidal ice,

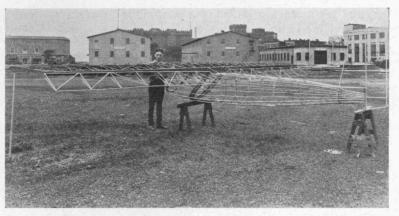
and some of the important physical constants of ice and their anomalies. Observation of the radiation of the sun, particularly early in the day, gave Dr. Barnes the clue that led to the development of ice control by intense heat radiation, a method in which he has successfully employed thermit to destroy large masses of river and lake ice and cause the rapid disintegration of icebergs.

Discussing the application of radiant heat in the destruction of ice, Dr. Barnes pointed out that the difference in temperature between the freezing and melting points is remarkably slight, often only a thousandth of a degree. He said that water at all temperatures contains ice in solution. At the point of freezing, water is thirty-seven per cent ice, and at the boiling point it contains seventeen per cent ice or, technically, trihydrol.

Dr. Barnes described the first appearance of ice at the instant of transition between the liquid and the solid. Gray cloud forms appear in the water, and soon long streamers are projected from these clouds, in much the same manner that fingers of fog appear suddenly over the sea under certain atmospheric conditions.

In his second lecture, delivered the following day, Dr. Barnes discussed the economic basis of ice engineering. He spoke particularly of the need for study of aëro ice, snow, hoar frost, hail, sleet, and sand ice. In referring to aërial navigation, sleet and sand ice were characterized as the greatest dangers. Little is now known, he said, of the nature of the adhesion of ice to various surfaces, and such phenomena offer a field for interesting and important research.

In his studies of iceberg formation, Dr. Barnes gathered



EARLY GLIDER

Designed and sent to France and Germany in 1922 by the Institute's Aëronautical Engineering Society, this American entrant won the bronze medal of the Aëronautique Club de France

much important data on various ice forms in these menaces to navigation. Pressure ice of pure water is blue and shades to purple when dust is present in the mass; pressure ice containing air is a deep emerald green. Dr. Barnes, with the coöperation of the International Ice Patrol vessels, applied radiant heat to very large icebergs, resulting in their rapid break-up.

In the distribution of heat through ice and water Dr. Barnes explained that radiant heat, of a wave length sufficient to penetrate the mass with only a small absorption coefficient, must be employed. The radiation of the sun, he pointed out, contains rays of great penetrating power and to imitate such rays it is necessary to produce an energy beam from a high temperature source. The energy output from the molten steel of

reacted thermit was found to be very efficient in supplying rays equal to those of the sun, surpassing the latter in photochemical activity.



Kudos

Medal of the Franklin Institute will be presented to Vannevar Bush, Sc.D. '16, Professor of Electric Power Transmission in the Department of Electrical Engineering, at the Medal Day exercises in Philadelphia on May 16.

This honor comes to Dr. Bush in recognition of his distinguished contributions to mathematical physics, the award being made upon recommendation of the Committee on Science and Arts of the Franklin Institute based on two papers by Dr. Bush, "A Continuous Integraph" and "Integraph Solution of Differential Equations," which appeared in its Journal.



HOWARD T. BARNES

From McGill University comes this noted authority to lecture at Technology on Ice Engineering

The Levy medal is awarded to the author of the paper of special merit published in the *Journal* of the Institute, preference being given to contributions describing the author's experimental and theoretical researches in a subject of fundamental importance.

Special mention will be made in the award of the work of H. L. Hazen, '24; H. R. Stewart, '24;

and F. D. Gage, '22, who were associated with Dr. Bush in developing the continuous integraph described in The Review for last November.

Pioneer

AETANO LANZA,
Professor Emeritus
since 1911, an active member of the Institute staff for forty-one
years and Head of the
Department of Mechanical Engineering for
twenty-nine years,
passed away March 21,
at Philadelphia.

Professor Lanza is credited with having established the first laboratory for the testing of full-size structural members. At the time he became Head of the Department of Mechanical Engineering, in 1883, its "laboratory" occupied less than half the available space in the basement of Rogers. Under his auspices the earliest of Technology's research activities in aërodynamics were carried out in a small wind tunnel built in 1910. Following his retirement in 1911, Professor Lanza became consulting engineer for the Baldwin Locomotive Works.

He was a fellow of the American Academy of Arts and Sciences and a member of the International Society for Testing Materials, the American Society of Mechanical Engineers, the Boston Society of Civil Engineers, the British Association for the Advancement of Science, the Colonnade Club of the University of Virginia, and many other organizations. His election to Honorary Membership in the Alumni Association was announced in the last number of The Review.

S-4

ARCH 17, just three months to the day after the submarine S-4 had been rammed and sunk off Provincetown, she came bobbing to the surface from her bed 102 feet beneath. Towing her through a buffeting north-east gale, the salvage crew next afternoon turned over the hulk to the Boston Navy Yard. Not until then did Commander Harold E. Saun-

ders, S.M. '17, breathe easily; for as salvage officer he was responsible for all of the underwater operations, which meant four-fifths of the job. He was aboard the first Navy ship to reach the accident, the first man to go inside the S-4 in dry dock, and the last to leave her after the official examination had been completed.

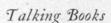
The raising was a creditable piece of engi-

neering, reputed to be the most difficult that the Navy has ever been called upon to undertake. In the bitterly cold weather that only the windswept tip of Cape Cod can produce, the salvage force unwatered the greater portion of the submarine, attached

six pontoons to chains passed beneath her keel and blew her to the surface without a single fatality. The engineering problems involved in the raising make almost as fascinating a story as those describing the heroic work of the divers. During the salvage work, for example, a condenser system had to be designed for reducing the amount of moisture in the divers' air supply to prevent its freezing; and a hydrogen-oxygen cutting torch that would operate at the 102 foot depth had to be developed.

Normally Commander Saunders, before and after the salvage of the S-4, is in charge of submarine construction at the Portsmouth, N. H., Navy Yard where the new mine laying submarine, V-4, was recently launched. At a luncheon meeting of the Faculty Club on April 13 he described the Navy's efforts to rescue the entombed men and

some of the engineering aspects of the subsequent salvage work.



GAETANO LANZA

The late Professor Emeritus who died

on March 21 after a prolonged illness

USK beyond the window pane and firelight on the hearth within. A deep, soft chair and the evening pipe of peace. And from the shadows beyond the rim of light a tireless voice, rising, falling, reading from the tomes of time of patriarchs and princes, of Babbitts and batik. The firelight fades and darkness fills the library. The voice reads on.

One may vision such a scene a generation hence if the "talking book" now being developed by Dr. Willis R. Whitney, '90, Director of Research for the General Electric Company at Schenectady, and member of the Corporation of the Institute, is perfected.

The idea of a "talking book" is practicable, Dr. Whitney is quoted as saying. Meanwhile, he is reported



Boston Evening Transcript

HOME FROM THE SEA

Pontoons bearing the stricken S-4 to drydock at the Boston Navy Yard after it had
been raised and towed from Provincetown

to be making further studies with the possibility that the first "talking book" may be ready for an audition within a few months.

Such a device, which would banish eye strain from reading and extend the influence of the world's literature to new fields, would employ a loud speaker for delivery of the voice. The transmitting instrument proper, according to meagre details from the General Electric laboratories, may have the appearance of a camera. The voice would be impressed upon a film with

several transmitting tracks from which the detecting device would pick up the sounds for amplification. The film, it is explained, would unwind in about fifteen minutes, whereupon the strip would automatically reverse, return and reverse, until six or eight tracks had been traversed. By this plan a film would provide entertainment for two hours and the speed of reading would be considerably greater than the visual form.

Beyond the actual perfection of such an instrument for general use, lies a broad field of possibilities. In addition to going to the library for a new novel, one would have the alternative choice of renting the "reader film" of the book. The success of such a device, one might venture to say, would depend a great deal upon the voice of the reader. Radio announcing hardly would serve as the preparatory school for such a profession. The trying problems of civic censorship will become more trying, it can easily be imagined, when the device becomes popularized, and a new field of eavesdropping on the forbidden appears.

Short Waves

THE electromagnetic waves which Dr. Heinrich Hertz discovered in 1887 and which Marconi later developed into a communication system were short, as radio waves go, being only about one-sixtieth of the length of those now used for broadcasting. Waves so short have never had any commercial significance and, because of certain technical difficulties involved in the production of powerful waves of that length, the ether wave spectrum in which Hertz worked has not been thoroughly explored. Not long ago, however, the engineers of the General Electric Company succeeded in building a vacuum tube that could be made to deliver as much as fifteen kilowatts of power at a wave length of six meters. They discovered interesting phenomena, which were described in a recent press dispatch.

"An incandescent lamp, pulled from its carton for the first time, lights to full brilliancy without wires or socket; a copper bar lying on the floor, blisters the hand that picks it up, though the metal is cold; a neon tube suddenly floods the room with its lurid red glow when merely touched by a spectator; . . . meters in adjacent rooms run wild, and delicate measuring instruments are twisted or broken, so that all accurate scientific work in

the vicinity is impossible; investigators, coming too close to the new apparatus, suddenly feel a comfortable warm glow reminiscent of prohibited stimulants, and then increasing pain in limbs and joints; rats in a cage placed close to the radiating wire become excessively animated for a time, but if exposed too long they die. . . .

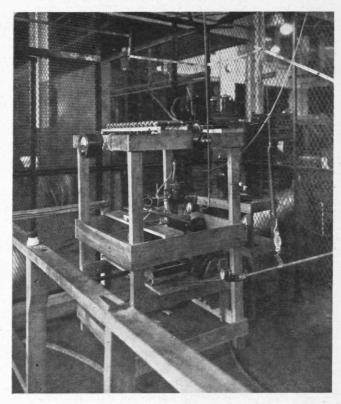
"Men working near the apparatus have noticed warming effects, increasing as they approached closer to the generator. Medical observations were made of several men placed near enough to the radiating antenna



Boston Evening Transcrip

THEY RAISED THE S-4

From left to right: Commander Harold E. Saunders, S.M. '17; Captain Ernest J. King, in charge of the salvage fleet; Lieutenant Harry Hartley, in command of the U. S. S. Falcon, the salvage ship



ARTIFICIAL FEVER

Newly developed high-frequency generator of extraordinary power which Dr. Willis R. Whitney, '90, believes may prove useful in therapeutics

to make measurements of changes in bodily temperature possible. It was found that the blood temperature rose to nearly 100° F. in about fifteen minutes, after which period the experiment was stopped. 'No one can safely predict or promise a utility for such new things,' said Dr. Willis R. Whitney, '90, Director of the Research Laboratory, 'but it is clear that further experiments must be carried out. It may be assumed that if we had a perfectly harmless method for warming the blood it might have value, because fevers are sometimes artificially produced in order to start convalescence, and it may well be, as asserted, that raised blood temperatures, or fever, is one of nature's factors in recovery from infectious diseases.

"Among the 'stunts' demonstrated with the high-frequency apparatus was 'radio-cooking.' A wire was suspended over a table at some distance from the radiating aërial, and parallel to it. A sausage, placed in a glass tube, was hung from the end of this receiving aërial, and in a few minutes it began to steam. On being removed, the 'weenie' was found to have been beautifully cooked by the high-frequency currents induced in it, although no flames or other visible means of heating were applied. A fried egg was also prepared in the glass tube, and served hot to the spectators, but since the egg was an inexpensive one obtained for experimental purposes, no

one offered to test its excellence. With a slightly different set-up cookies were baked and water boiled by the induced currents received through space."

Laurence A. Hawkins, '99, executive engineer of the Research Laboratory, was quoted as saying, ". . . We have not studied the applications of the new tube at all, except to make a record of the interesting sidelights which its operation has brought out. The demonstrations indicate that many of the high-frequency phenomena may be worth investigation, and it is likely that in the future applications will suggest themselves as they always do when a new field is entered."

Memorial

BAS-RELIEF of Mrs. Ellen H. Richards, '73, (née Ellen H. Swallow) is to be unveiled on graduation day, Tuesday, June 5, in Room 10-250. This memorial to the Institute's first woman graduate is to be given to the Institute by the M. I. T. Women's Association and the presentation address in behalf of that group will be made by James P. Munroe, '82. In behalf of the Corporation and Faculty, acceptance will be made by Samuel C. Prescott, '94, Head of the Department of Biology and Public Health and retiring President of the Alumni Association.

Mrs. Richards, whose death occurred in 1911, entered the Institute in 1871 following her graduation from Vassar College. Subsequent to her graduation from the Institute she worked as instructor in chemistry and mineralogy. Later she became active in public health problems, notably in the field of sanitary chemistry. For twenty-seven years she was in charge of the Institute's laboratory devoted to the study of this subject and she was very active in the founding of the Institute's Course in Sanitary Engineering, the first course of its kind in any educational institution.

Her marriage to Robert H. Richards, '68, from 1873-1914 in charge of the Institute's Department of Mining and Metallurgy, and now the oldest living graduate, affiliated her even more closely with Technology. She aided Professor Richards professionally and at the same time became more and more interested in scientific aspects of home economics, the chemistry of food, and



"HONUKAI OF HILO"

Wide World

Capable of thirty miles an hour on land and ten affoat, this auto-boat has been constructed for use by Dr. Thomas A. Jaggar on his volcano-studying expedition to the Aleutian Islands

matters of public health. Her leadership and influence among women became widespread and her brilliant career naturally stimulated many other women to enter professional and social work. Because of her accomplishments and her contributions to Technology, it is doubly fitting that a memorial be placed in the Institute buildings.

Technology Etchers: Charles H. Woodbury, '86

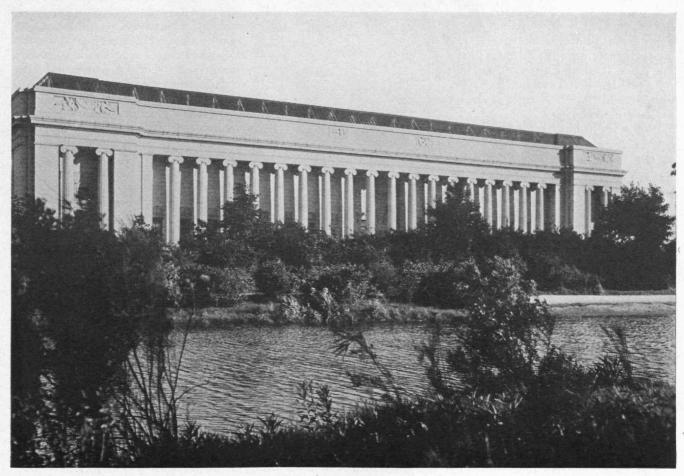
BOSTON gallery last year held an exhibition of fifty etchings by Charles Herbert Woodbury, '86, the first general showing of his work in this medium, and included among those was "Narrow Cove," reproduced on the cover of this issue. In the main, Mr. Woodbury has devoted himself to painting; "Mid-Ocean," "A Heavy Sea," "The Ground Swell," "The Forest," and "On a Lee Shore" being his most important works in this field.

Recently, he has turned to etching and brought to that medium an individuality of treatment wholly his own. He himself has described his method: "My general purpose in the use of the etched line is to employ the quality and suggestive power of the line itself and lose it in tone and values only when necessary to give a descriptive fact.

"The line serves to suggest motion and what is happening to the subject, carrying with it the indications of form and light and shade. A line of this nature is abstract and has meaning through general association and conscious suggestion. It is never literal and aims at sensation and the direction of the attention rather than description."

Mr. Woodbury was born in Lynn, on July 14, 1864. Following his graduation from the Institute he studied at the Académie Julian, Paris. In 1907 he was elected to the National Academy. At present he is President of the Boston Water Color Club, and a member New York Water Color Club and the Guild of Boston Artists. He is now a resident of Boston. "Narrow Cove" was lent to The Review by Charles E. Goodspeed and Company.

TENTATIVE plans are under way for the dedication of the Guggenheim Aëronautical Laboratory during the week of graduation exercises beginning June 4. Since, by regular schedule, The Review does not appear in June, there will be no issue before that of July, the last number of Volume XXX. In anticipation of the dedication in June, The Review presents in this issue an article by the Hon. Edward P. Warner, 17, Head of the Department of Aëronautical Engineering, now on leave. Professor Warner's paper on page 407 reviews the reciprocity and coöperation that has so happily existed between the Institute and the United States Navy.



MUSEUM FACADE

The gallery of the Boston Museum of Fine Arts designed by the late Guy Lowell, '94, adjacent to which is the new wing which he completed shortly before his death

Advisory and Visiting Committee Reports: Department of Naval Architecture

The Secretary's Reports of Recent Meetings held in New York and Boston. Published by Arrangement with the Corporation Executive Committee

N Thursday, November 3, a Joint Meeting of the Advisory and Visiting Committees for the Department of Naval Architecture and Marine Engineering was held in India House in New York.

Those present were: Dr. Samuel W. Stratton, Professors James R. Jack, William Hovgaard, and Lawrence B. Chapman, '10, representing the Institute; J. W. Powell and Charles A. Stone, '88, representing the Visiting Committee; and Franklin D. Mooney, of the

Atlantic Gulf and West Indies Steamship Company, Paul J. Bertelsen, '17, of The Atlantic Works, J. R. Gordon of the Union Sulphur Company, Gordon G. Holbrook, '10, of the Federal Shipbuilding and Dry Dock Company, R. H. M. Robinson of the American Ship and Commerce Company, Charles P. Wetherbee, '91, Consulting Engineer and Captain C. A. McAllister, of the American Bureau of Shipping, representing the Advisory Committee. The invited guests were: F. S. Fales of the Standard Transportation Company; Admiral D. W. Taylor, U. S. N., retired; and E. P. Farley of E. P. Farley and Company.

Professors Jack, Chapman, and Hovgaard discussed the courses now offered at the Institute. Professor Chapman was questioned at some length on the Course in Ship Operation. Repre-

sentatives of the various steamship companies stated their interest in this Course. It is believed that there will be ample opportunity to place any number of students

completing this Course.

The further development of marine courses at the Institute and of the provision for a model tank were considered. Dr. Stratton, Professor Hovgaard, and Admiral Taylor contributed valuable information relative to this tank, the construction of which is one of the questions before the Corporation. Mr. Farley made suggestions as to work that could be carried on by the Institute in connection with commercial shipping companies that would increase its value in the commercial world.

II

On Monday, January 30, 1928, another Joint Meeting was held at the Chamber of Commerce, Boston.

The same members represented the Institute. Also present were: J. W. Powell, A. Farwell Bemis, '93, and Henry A. Morss, '93, representing the Visiting Committee; D. C. Cox of Cox and Stevens; Charles P.

Wetherbee, '91, Consulting Engineer; Paul J. Bertelsen, '17; Edgerton Parsons of Marsh and McLennan; and Gordon G. Holbrook, '10. The invited guests were: Edward Page, '93, of the New England Coal and Coke Company; R. C. Goodwin, of the Bethlehem Shipbuilding Corporation, Ltd.; Charles B. Maynard of the Merchants and Miners Transportation Company; Captain A. G. Deming of the United Fruit Company; Harris Livermore of the Coastwise Transportation

Company; and G. R. Ravenal of the International Mercantile Marine

Company.

After brief statements by Dr. Stratton and Mr. Powell, Professors Jack and Chapman described the courses now offered by the Institute. Professor Chapman discussed the Course in Ship Operation and the new part time Course for men actively engaged in shipping. He laid stress on the desirability of assurance that the graduates of the Course could obtain employment and on the necessity for close relationship with industry to be sure that the Course was furnishing proper instruction to its students. The various representatives of shipping and shipbuilding all agreed that there would be opportunities for employment for students during the summer and for graduates on the completion of their

courses. The desirability of impressing on the young men the understanding that they must begin at the bottom was stressed, also that the companies must show them some consideration in recognition of their education and viewpoint, and that in sending them on board ship they could not be expected to be satisfied if they had to live with the foreign crew element, and that, so far as possible, the time that they must expect to serve

in various capacities should be outlined.

Various problems of ship operation were discussed and the possibility of utilizing the Institute for their solution was also determined. Among these, Mr. Livermore spoke of the need of a collier that would not be subject to the usual charges for trimming coal, and Mr. Ravenal of a satisfactory grain loading device. The meeting was an interesting one and both the representatives of the Institute and of the various companies left after a two hour discussion, each with a better understanding of the problems of the other.

Respectfully submitted,

J. W. Powell, Chairman of the Committee



JAMES R. JACK Since 1920 Head of the Department

Naval Aviation and The Institute

How Technology has Contributed to Aeronautical Progress in the U. S. Navy

By EDWARD P. WARNER, '17
Assistant Secretary of the Navy for Aëronautics

THE members of the Corps of Constructors of the United States Navy, as officials and students of the Institute have learned through many years of personal contact with them, are heirs to a high tradition which requires that they should always keep abreast of technical development and be watchful of every opportunity for making new applications of scientific and industrial advance in the naval service. Theirs is the responsibility for the detailed planning of our surface and submarine vessels of war, and for insuring that they shall be in no respect inferior to the ships of any other country in the world.

When the airplane became a reality, Constructors, like other naval officers, were quick to feel an interest in its possibilities. The technical experts who had been engaged in economizing weight and reducing water resistance of ships turned naturally to the problems of trimming the ounces and suppressing air resistance in aircraft. The relation between the Corps of Naval Constructors and the

Institute has long been a close one. President Richard C. Maclaurin had seen the members of the Corps as postgraduate students at the Institute under Professor William Hovgaard and, subsequent to their graduation, as officers going about their assigned duties, and when he sought to establish a regular course of instruction in aëronautical engineering he turned to their body to find a leader. Never has there been a more fortunate episode in aëronautical engineering education in America than the selection for the Institute's work upon that occasion of Commander Jerome C. Hunsaker, S. M., '12, who had just completed a year of aëronautical investigation abroad, and his subsequent assignment by the Navy Department to duty in the old buildings on Trinity Place. The first course leading regularly to an advanced degree in aëronautical engineering to be established in the United States was placed under the guidance of a man who combined the highest scientific attainments and an intimate knowledge of aëronautical development throughout the world with an eminently practical point of view. His successors have only had to follow in the course that he charted, and the results of his work have



been invaluable, directly or indirectly, to teachers of similar subjects elsewhere. Had there been no other connection, the work done by Commander Hunsaker while aëronautical education was in its formative stage would establish a lasting bond between what is now Course XVI at Technology and the United States Navy.

The war called Commander Hunsaker to great responsibilities outside the educational field, and the Institute's contacts with naval aviation entered a new phase. The institution turned itself over whole-heartedly to the work of training men for the military services, and the largest single activity of the sort was the naval ground school to which young men from all over the country came by many hundreds to receive training preliminary to their being sent to naval flying schools for the completion of their instruction. At the same time another group of officers, graduates of technical schools and already fully qualified as aviators, were being detailed to take an intensive course in aëronautical engineering with the Institute's staff and making use of its laboratory and library and classrooms.

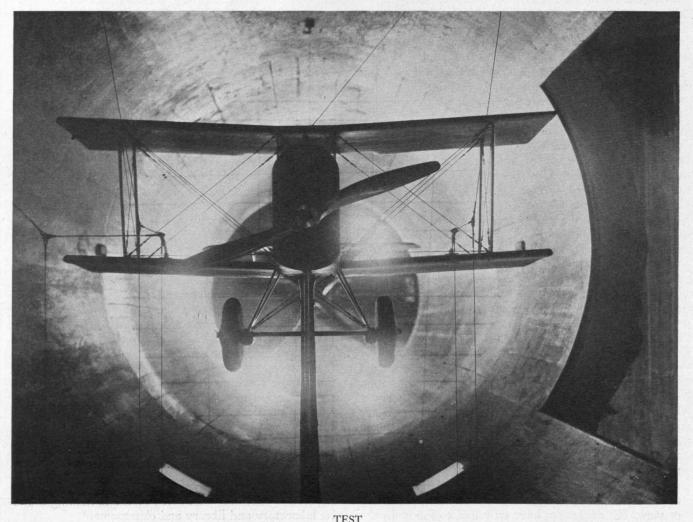
The close of the war inaugurated another period and

called for another readjustment. Beginning in the fall of 1921, especially selected groups of officers were sent from the post-graduate school at Annapolis to take a year of training in aëronautical engineering, with special reference in most cases to aëronautical power plants. There have been seven such groups of naval graduate students in aëronautical engineering so far, and they have ranged from three to eight in number. The graduates during those six years (preceding the present one) have done important work in an organization where it is indispensable that there should be the closest liaison between the development of material and its operation. The line officers regularly engaged in operations, spending a large portion of their time on active duty at sea, who have had the advantage of these brief post-graduate courses, have fitted into a vast administrative and operating organization in which there is place also, and indispensable need for, the officer of a staff corps giving his whole time to technical specialization, either on aircraft or upon surface and submarine ships.

At the present time the Assistant Chief of the Bureau of Aëronautics in the Navy Department, which exercises a general surveillance over all naval aviation activities, is a graduate of the Institute, as are the chief of the division especially charged with the development

of material and the officers at the head of the engine, aërodynamic, structural, propeller, airship, and arresting gear sections. The manager of the Naval Aircraft Factory is a Naval Constructor and a graduate of the course directed by Professor Hovgaard. The chief inspectors of naval aircraft at the plants of the three of the largest airplane manufacturers received their specialized training in aëronautical engineering in the Institute courses in that field, and the commanding officer of one of the two largest Naval Air Stations in our over-seas possessions has likewise had the post-graduate course in aëronautical engineering. So, too, to take but one more example, has the officer of the Marine Corps who was for two years charged with the engineering and maintenance of all the aëronautical equipment in Haiti. The marines there have made the marvelous record of flying constantly during a two-year period, much of their operation carried on with war-time engines now obsolete, flying over jungle, mountain and savanna, where power-plant failure would be serious if not fatal, with only one forced landing in the whole time.

The Institute has profited greatly from its relation with naval aviation and those engaged in developing it, and it has rendered service in return, but the relationship has not been confined to the giving of technical training to officers of the regular establishment. It is



A quarter-size DH-4B model plane undergoing tests in the Institute's small wind tunnel

absolutely fundamental to the military policy of the United States that there should be a well-trained and well-organized reserve of officers and men both for the Army and the Navy. The complements of ships and naval stations are always kept at below war strength and the personnel of a reserve must be depended upon to give the organization enough elasticity to enable it to pick up war burdens without confusion. The duties of naval aviation are highly technical, and young men competent to be trained as efficient reserve officers in that branch of the service can best be found in technical schools. The Institute, being located in immediate proximity to the first of the Naval Reserve Air stations to be started when the post-war program of reserve development was initiated, has made liberal contribution from among its student body, and of the 250 qualified reserve aviators now enrolled in regular squadrons as a part of the Fleet Reserve organization, including fifty serving for one year on active duty with the regular Navy, the Institute has furnished a considerable proportion.

Reservists now, like the young men who entered naval aviation during the war, require some mechanical and other training and some knowledge of the theory of flight prior to their actual experience in the air, and the Institute, with its experience of 1917 and 1918 behind it, has picked up again the task of giving such instruction. For several years, first under the command of the late Noël Davis, who went from his

service at the Naval Reserve Station at Squantum to head all Reserve Aviation activities in the Navy Department, and subsequently under Lieutenant Reginald D. Thomas, present commander of the Squantum Station, courses of lectures have been given in the evening by members of the Institute's staff and others as a means of giving some preparatory instruction to aviation candidates and of paving the way for a more rapid progress when they have been formally inducted into the service and reported for duty. To that informal arrangement there is now succeeding, by agreement between the Navy Department and the Institute authorities, a regular naval aviation course, given in close conjunction with Course XVI and offering special preparation for aëronautical work in the Navy to those students in aëronautical engineering who desire to fit themselves for reserve commissions and to learn to fly under naval auspices. It is a part of the program of Naval Reserve development which is designed to provide for the establishment of squadrons in a dozen locations distributed over the country, building the total roster of officers in reserve aviation up to a little less than 500.



HOLDEN C. RICHARDSON, '06

Holding the rank of Lieutenant Commander in the United States Navy, he is the Chief of the Design and Material Division of its Bureau of Aëronautics. Recent news photographs show bim seated at the controls of an old 1915-model Curtiss seaplane which was discovered in storage at the Washington Navy yard. He flew it

Enthusiasm for aviation is running through the colleges and technical schools like a prairie fire. It takes various forms, but a desire for personal participation in actual flight is everywhere manifest. The colleges are forming flying clubs, planning light planes, building gliders. The latter is a field in which the Institute pioneered in 1910, and to which it returned with the benefit of a dozen years accessions to the world's knowledge of aëronautical science in 1922. The urge of youth to get into actual personal contact with these fascinating new craft will not be denied.

In the development of collegiate flying activities the reserve forces of the Army and Navy have been the keystone. The first intercollegiate aviation meet was held shortly after the close of the war, and the participants were service aviators who had returned to college and who flew service planes in competition under their college colors but acted individually as reserve officers. Collegiate competition is now being revived, with a contest in prospect for this spring, and arousing keen interest, and while the college representatives will this year be using their own planes on behalf of their collegiate flying clubs, it is a safe guess that many of the pilots

will have some training under naval or military auspices. The Institute is training aëronautical engineers. It is also harboring in Course XVI, and elsewhere, aëronautical enthusiasts who are eager to secure precisely the training that the Navy is in a position to offer.

The Navy Department expects to continue to avail itself in the fullest degree of the coöperation of the Institute and its students, as well as of other technical schools and universities. We recognize and appreciate those patriotic impulses which inspire young men to qualify themselves to enter the service of their country, if they are needed there, in a highly technical specialty. So far as the funds available, the general scope of the framework of the naval organization and other limitations permit, we seek to offer them the training that they would need to fit them for such service. It is fully recognized, and it is a source of satisfaction

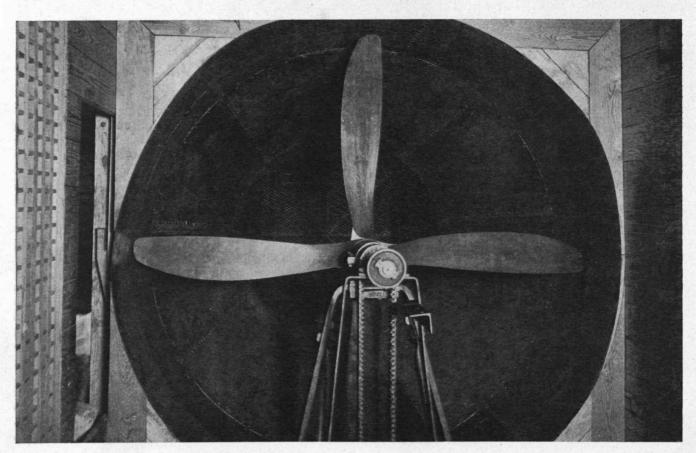


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PIONEERS

Above: Commander Jerome C. Hunsaker, S.M. '12, who was in charge of the Institute's first regular Course in Aeronautical Engineering. Below: the wind tunnel built in 1913 and used during Commander Hunsaker's régime. It has since been discarded for more modern types and pride to the naval service, that at the same time we are coöperating in the training of aëronautical engineers to serve in the aircraft industry and are preparing expert pilots qualified to enter the field of commercial aviation, which itself has a very important bearing on the reserve air strength of the national defense.

The Navy does not exist as a separate independent entity, but rather as an instrument of the nation. In its organization and development every citizen has an interest, and individuals and organizations outside the naval service constantly render invaluable aid in that development. The Massachusetts Înstitute of Technology has contributed generously and rendered many important services to both naval aviation and the United States Navy as a whole. The continuance of these services will be relied upon for the future as it has been relied upon in the past.



Student Living Conditions at Technology

An Abbreviation of the Extensive Report recently Submitted to the Corporation by the Committee Appointed by President Stratton to Study the Dormitory Situation at the Institute

Introduction

POLLOWING a resolution of the Corporation on October 19, 1927, the following committee of twelve was appointed to consider the Institute's dormitory problem in all its phases and report its

findings to the Corporation at a date not later than its March meeting:

From the Corporation: A. F. Bemis, '93, chairman of the entire committee; F. W. Fabyan, '93; J. Lawrence Mauran, '89, with Walter Humphreys as his associate and alternate. From the Alumni: S. C. Prescott, '94; H. P. Eddy, Jr., '17; C. H. Chatfield, '14. From the Faculty: H. S. Ford; L. F. Hamilton, '14; H. E. Lobdell, '17. From the Undergraduates: R. T. Jope, '28; J. Donovan, '28; E. Gray, '28.

From the inception of the committee's work it was found desirable to limit, or certainly to define, the work of the committee under the very broad scope assigned to it by the Corporation resolution. It seemed clear that the question of funds was not up to the committee. The committee took as its problem the consideration of what the dormitory life at the Institute is and what it should be. The committee tried to view this matter from the view-

point of that system of Institute life which would best develop individual and group capacity for social service.

The committee first set out to secure as complete data as possible regarding conditions at the Institute and information from about twenty representative men's colleges as to present dormitory conditions and developments since the date of the previous Technology alumni study of 1920. The committee then considered matters of opinion chiefly from persons directly connected in one way or another with the Institute and

those who have some vital interest in our dormitory problems. This inquiry included a conference with representatives of the fraternities.

In concluding its work the committee tried in its recommendations in every case to reflect only predominant opinion. On significant phases of the problem in

which there seem to have been any pronounced differences of opinion which discussion has failed to eliminate, the report includes references to minority viewpoints, but in no case have such differences interfered with the predominant opinion as represented by the committee's recommendations.

For several reasons it has not proved practicable to make any comprehensive study of the future trend of Institute life and probable needs beyond the next five or ten years. The committee believes that this report may be taken as fairly representative of Faculty, Alumni, and Undergraduate views as to the present and immediate future. In the opinion of the chairman this report should be promptly followed up by a rather intensive study of the Institute's probable future development in educational fields and in the numbers and character of its student body. For this purpose a smaller committee composed perhaps of one representative only of

one representative only of the Corporation, Faculty, Alumni, and Undergraduates would be more effective than the present committee of twelve. As a result of such a study the President and Corporation might properly expect a fairly dependable program of dormitory policy and development covering the next twenty-five years.

The main tenor of this report is favorable to present policies and program. Its chief value is probably the confirmation of the past accomplishments and present plans. The committee, however, believes that it does

Dormitory Operation at Technology

NUMBER AND KIND OF ROOMS

Excluding the new dormitory units now under construction, there are at present available:

116 single rooms (of which I may be used as a double)
68 double suites (of which 8 may be used as triples if desired)
9 triple suites and I for 4 men

If used to full capacity, these rooms can house 292 men.

Including the new units under construction, these totals will be increased to:

252 singles 68 doubles 9 triples and I for four men

with a total capacity of 428 men.

Double suites generally mean a study, dressing room and bedroom, in some cases two bedrooms without dressing room.

Triple suites generally are the same as double described, with an additional single room off the study.

ASSIGNMENT OF ROOMS

Rooms are assigned by the Dormitory Board soon after March 1 each year, and as far as possible in order of application, with exceptions as noted:

Men who are already in the dormitories and who desire to remain another year are given priority in this assignment, provided their applications are filed before March 1.

The Board has endeavored to equalize the allotment to the four classes, as far as possible. Owing to the priority given dormitory men, it usually follows that the Senior Class secures something more than its 25 per cent, and the lower classes something less, but with the additional units soon to be opened it is expected that this allotment may be more nearly equalized.

clearly define predominant opinion upon the relatively few controversial features of our dormitory policy.

Data on Conditions Inside and Outside M. I. T.

As previously stated the committee directed its first attention to the collection of opinion on dormitory life both inside and outside the Institute. This included for Technology such general items as:

The classification of our students based upon their relations with our dormitory requirements. This inquiry covered the number of undergraduates in each class and number of graduates, the division between fraternity and non-fraternity men, and those living in dormitories and fraternity houses and boarding houses and at home.

Information regarding the number and kind of rooms both in the dormitories of the original group and the quadrangle under construc-

Furnishing and services included under our dormitory leases and how administered.

Government and control of occupancy and the division of control as between Institute authorities and dormitory students.

Feeding or boarding arrangements including a reference to nearby public eating places.

Room rentals both inside and outside Institute property and prices

for board.

Dormitory life including facilities for work and facilities for social and physical recreation.

All of the above data as collected by the committee have been edited and tabulated and included in the report as Appendix 2. Certain of the statistics appear in the boxes distributed through these pages.

The significant features of these Technology data to which the committee would particularly call attention are as follows:

Decline in student registration from a total of 3,505 in 1921-22 to 2,671 in 1926-27, from which figure in the current year we have advanced to 2,712.

Included in these figures of registration are an increasing number of graduate students, sixty per cent of whom have to find rooms and board outside of our dormitories, fraternities, or their homes.

Of the undergraduates, thirty per cent are living outside of the dormitories, fraternities, or their homes, all four undergraduate classes running close to the average of thirty per cent.

There is little difference in the cost of living as between the dormitories, fraternities and outside boarding houses, though the dormitories seem to be cheaper.

Whereas the spread between minimum and maximum accommodations and rates at the Institute is considerably smaller than in comparable institutions, it seems quite well to cover the major range of Technology student requirements.

Without considering the total capital investment in our dormitories the direct return during the past four years seems to be reasonable

and satisfactory.

The review of our dormitory student opinion is interesting in its recommendation for more double suites as compared with single rooms indicating a present demand for a fifty-fifty division as between these two types of accommodations.

Other pronounced opinion of our present dormitory students is dissatisfaction with the present telephone service (though probably approving of the new system in prospect), and in favor of one large central lounge on the south end of the present quadrangular group, and in favor of the present system of "student government."

With a view to bringing the Alumni Dormitory Report of 1920 up to date, the committee corresponded with twenty comparable men's colleges. The inquiry covered six features as follows: (a) Physical features; (b) social features; (c) dining features; (d) government and administrative features; (e) financial features; (f) relation of fraternities and clubs.

The following facts are of particular interest:

In connection with the decline in student registration at the Institute that has been going on prior to the current year, similar declines have occurred in several other colleges, notably Cornell.

As compared with practically all of the twenty institutions covered, the percentage of our students housed in dormitories is relatively low.

In regard to dormitory fees the Institute is close to the average, with Cornell about the lowest. Our charges for heat and light are relatively low with service relatively high, and the expense of upkeep medium. The equipment of the rooms in the Technology dormitories is equal to the best, if it is not the best.

Where dormitories are supplied by some individual donor there is a tendency to waste money in "bricks and mortar" and luxuries far in excess of any direct physical or social value to the student dormitory occupants.

Housing Conditions in 1927 at Massachusetts Institute of Technology

Since the 1920 report on housing, the registration at the Institute has been

M. I. T. REGISTRATION 1920-27

1920	3,436	1924	2,938
1921	3,505	1925	2,813
1922	3,180	1926	2,671
1923	2,949	1927	2,712

PERCENTAGE DISTRIBUTION OF EACH CLASS Nov. 1, 1927

	Dormi-	Frater-		Else-	
	tories	nities	Home	where	Total
Graduate Students	7.9	4.5	26.8	60.8	100
Seniors, Class of '28	13.45	17.5	36.2	32.85	100
Juniors, Class of '29	8.3	22.5	38.7	30.5	100
Sophomores, Class of '30	9.5	22.4	40.5	27.6	100
Freshmen, Class of '31	12.6	13.3	44.0	30.1	100
Total	10.55	16.9	38.05	34.5	100

PERCENTAGE DISTRIBUTION OF DORMITORY AND FRATERNITY SPACE TOGETHER WITH SIMILAR FIGURES FOR STUDENTS LIVING AT HOME AND ELSEWHERE

	Dormi- tories	Frater- nities			Total
Graduate Students	10.5	3.7	9.8	24.5	13.9
Seniors, Class of '28	26.9	21.85	20.1	20.1	21.1
Juniors, Class of '29	17.15	28.8	22.0	19.15	21.7
Sophomores, Class of '30	19.25	28.4	22.8	17.1	21.4
Freshmen, Class of '31	26.2	17.25	25.3	19.15	21.9
Total	100.0	100.0	100.0	100.0	100.0

Opinion on Dormitory Matters with References to Recommendations of the Committee

The chief task of the committee has been to weigh opinion, especially Technology opinion, in the light of facts developed as previously mentioned, sifting the good from the bad and developing the majority opinion in so far as it might be based upon sound reasons. Obviously, the opinions of those not directly interested in Technology problems it has been possible to consider only in very small degree. Where it has been possible to consider them at all, the committee has tried to eliminate mere gossip and confine itself to expert advice. The committee has followed the old maxim that "actions speak louder than words" by considering the practice at twenty other institutions whose conditions were investigated, on the theory that recent practice has represented their opinion of desirable dormitory policy. The committee's search for opinions and suggestions on the dormitory problems before it has, therefore, been confined chiefly to those in some way connected with or interested in Technology.

In this field the committee undertook to develop Technology opinion as to the ideal features of a Technology dormitory system as to the following

general topics:

1. General character of intellectual, social and physical atmosphere to be fostered. There seems to be no difference of opinion on this point. The intellectual atmosphere of a technical institution must necessarily be serious and earnest, with liberty of thought limited only by scientific or technical justification and influenced by a large measure of the imaginative. Provision for the maximum of healthy

physical features for a healthy body with a minimum of useless luxuries, the maximum opportunity for social contact among fellow students with a minimum of interference with opportunity for intellectual growth, and a maximum of control or self-government by the student body itself in matters of personal conduct consistent with decency, in the opinion of the committee, may be confidently expected to foster such atmosphere

or influence.

2. Location with respect to educational buildings. There are at the present time but two general possibilities which need be given serious thought in connection with provision for dormitories during the next decade. We are already committed to a development on the main site which, when completed, may be expected to cover our immediate necessities for undergraduate housing. Whereas beyond pending development, further dormitories might still be accommodated on the main site, it seems probable that any additional dormitories should be placed west of Massachusetts Avenue on less expensive land without impeding ultimate opportunity for the maximum development of the Institute's educational and laboratory plant. As far as the possibilities go, some further dormitories beyond the quadrangle as projected might be included on the main site without interference with the development of the educational unit within the near future by encroaching upon space now devoted to athletic purposes. Locations west of Massachusetts Avenue would give a considerably wider scope in the features of both plan and structure and, therefore, in these respects a more attractive location.

Distribution of the 1,072 Answers to Undergraduate Canvass

A canvass of M. I. T. students was made in November, 1927. Nearly half of the 2,400 questioned replied.

ROOMS AND COSTS

	Dormi- tories	Frater- nities	Apart- ments .		Relatives	Home	
Men living (excl. dorms) Willing to live in		29.2%	12.2%	14%	3.1%	38".8%	
dorms if adequate accommodation. Price of—		1%	39%	5.1%	36%	20%	
Room per week .	\$5.50	\$5.75	\$6.56	\$5.48			
Board per week	\$9.15	\$9.93	\$10.15	\$9.37			

A few questionnaires were discarded, hence the total is not 100%.

Of men living in boarding houses:

53% occupy single rooms 39% occupy double rooms 8% occupy suites

Type of room at home, at fraternities, and with relatives not obtainable.

Men living at home eat breakfast and dinner there and patronize Walker for luncheon twice as regularly as all other restaurants combined.

Men living with relatives patronize Walker about equally with all other restaurants combined.

Men living in apartments eat:

10.7% of meals in apartment 23.3% of meals in Walker 66.0% of meals in restaurants

3. General layout. The only suggestion for anything essentially different from the present dormitories built and projected has been by a few persons who have suggested that by building only two stories high the same amount of room area and of light and air could be provided on a given area at much less cost for the structure. While such a general layout would not seem well adapted to the main site, it should receive consideration in the case of any development off the main site such as the land west of Massachusetts Avenue.

There has been some criticism of the lack of architectural attractiveness of the present quadrangle

as developed thus far. Undoubtedly attractiveness has been somewhat sacrificed to standardization and low cost. However, it seems likely that, upon completion of the quadrangle with use of opportunity for attractive architectural features in the proposed northerly dormitory and the west façade of the west line of units and with further opportunity in closing the southerly side by an iron and masonry fence or a low, one-story building for a lounge, these criticisms will be in large measure eliminated.

- 4. Size and character of dormitory units or stairways. Few, if any, differences of opinion on these points exist other than those indicated toward the end of the last paragraph involving a considerable change in general layout. In the case of the recent and projected five-story dormitories the great majority of opinion, both inside and outside of the Institute, confirms the size of units represented by the four stairways just completed in which there are approximately seven men on each floor or thirty-five men in one stairway unit. Obviously, in a two-story development the number of men in a stairway would be very much less. This would be an advantage in some respects but, except for the housing of instructors and graduate students, might be expected to introduce some problems and complications in administration and control.
- 5. Size and character and variety of rooms including toilets, etc. The rooms in the '93 and adjacent dormitories have been criticised as being too much like barracks and also as containing too many single rooms, in fact, including no provision for double suites as such, even though

intercommunicating doors make it possible to use adjoining rooms in that way. These criticisms can in some measure, anyway, be met in the planning of the four additional units of the quadrangle and, as far as the suggestions seem to be justified by the demand or requirements, they will probably be followed. Otherwise the layout as it stands seems to be generally satisfactory and up to date.

6. Room furnishings and fixtures. Somewhat similarly, there have been no radical criticisms of the furnishings and fixtures and but two or three suggestions for following any different practice. The most notable ones having to do with the furnishing of rugs and additional or different tables, the Bursar says, will be taken care of satisfactorily so far as such demands prove real.

7. Care of rooms and services. There is general approval of the care of rooms and the services supplied in connection therewith.

8. Study or working features. There have been no suggestions of importance in connection with different

study or working features. 9. Common lounges and other social features. The question of provision for common lounges within the dormitories themselves has perhaps occasioned more interest and discussion and been subject to more differences of opinion than any other problem coming before the committee except that of fraternity relations. Among the dormitory students, however, and within the committee there has been no great difference of opinion. Both the dormitory students and the members of the committee are practically unanimous in the opinion that a common lounge for all students in the Walker Memorial Building will not satisfactorily fill the need for a common meeting place for the students either in the original dormitory group or the pending quadrangle group, each of which should have a common lounge of its own. A few believe that this requirement outside of Walker may be satisfactorily filled by a small lounge for each group of about seventy to eighty men located on the ground floor of each unit or every other unit. The final vote of the committee, however, in connection with the group under construction is for a common lounge for all students living in the group to be provided in the form of a relatively low building across the south end of the quadrangle. This would be far easier to administer, would on the whole cost less, and in the opinion of the committee would be more satisfactory than the individual or small lounges distributed more widely throughout the different units.

10. Physical recreations exclusive of general Institute provision. Whereas there have been suggestions for various recreative features to be provided either inside of the dormitories or adjacent thereto for the use of dormitory students, the general consensus of opinion is that nothing beyond the provisions made by the Institute for the general student body need be considered.

11. Dining facilities. Although opinion is quite definitely favorable to the general eating facilities now provided by the Institute, there is also an opinion generally favorable to the erection of a new building or wing of the Walker Memorial to be placed east of the present building providing new and more adequate facilities for feeding both the dormitory students and the

general student body and Faculty. That would release for lounge purposes the main room in the Walker Memorial Building which originally was intended for such use. Indeed, it seems to be the general opinion of the student body that it is much needed as a lounge, quite in addition to the requirements of dormitory students.

12. Relation to fraternities including membership or dormitory living restrictions. A glance through the data regarding dormitories at other institutions makes clear that the housing and feeding of freshmen involve problems which are somewhat different from the housing and feeding of those in subsequent years. At some institutions special dormitory provision is made for freshmen and there are resulting regulations or requirements as to freshman occupancy. Likewise in connection with the feeding of freshmen, attendance in the college dining halls is made compulsory at some institutions such as at Dartmouth, Princeton, and Yale. These practices elsewhere have naturally raised the query as to whether we should adopt such policies at Technology. Because of our limited dormitory facilities, this is not an immediate practical problem, nevertheless it becomes a question to be considered in connection with our aims for the future.

Suggestions for measures of compulsory occupancy of the dormitories or compulsory attendance at Institute dining halls involve questions of the relations between dormitory life and fraternity activities and services. During the past forty or fifty years the fraternities have taken an increasingly important part in the social life of the student body. Particularly during the past twenty years have the housing and dining facilities provided by the fraternities grown. During the present year approximately 101/2 per cent of the student body have been housed in the dormitories, 17 per cent in the fraternity houses, 38 per cent at home, and 341/2 per cent elsewhere. Next year the number of men housed in the dormitories should closely approximate those housed in the fraternity buildings. Although the Institute's investment in dormitories will probably soon outstrip the gross value of Institute fraternity real estate and buildings, it has recently been lagging behind.

There has been some excitement over the possibility that freshman use of the Institute dormitories and dining halls would be required. While such requirements if suddenly imposed would be very injurious and unjust to our fraternities, an authoritative notice of such intention five or six years in advance would make it practicable in most cases for the fraternities to adjust themselves to such conditions involving, however, changes in fraternity administration and services which most Technology fraternity men believe would lessen their helpfulness to the Institute.

However, there is no prospect that in the next five or six years any provision may be made for housing all freshmen consistent with the requirements for other classes. Furthermore, there seems to be a predominant opinion favorable to the existing relations between Institute dormitory and fraternity life. Consequently, there is no immediate problem as to freshman compulsory dormitory or dining use.

As to the more distant future, there are undoubtedly some members of the Faculty and Alumni body and one or two members of this committee who believe that the best good of the Institute and the fraternities also might be best served by more adequate dormitory accommodations for freshmen and some measure of compulsory use. There is a distinct possibility of a compromise policy on this point being effected on the basis of compulsory occupancy of Institute dormitories and attendance at Institute dining halls of all freshmen who live neither in fraternity houses nor at home. The adoption of such a policy for the more distant future when the Institute might have dormitory facilities sufficient to

enforce such a regulation has not been fully discussed nor voted upon by this committee. The chairman, however, takes discretion individually at this eleventh hour to suggest, if not to recommend, the future adoption of such a policy by the Institute.

13. Special provision for graduate students. While adequate housing for undergraduates is the most pressing of the Institute's dormitory problems, some provision for graduate students should receive the next attention. This might, however, best be made in some such way as previously suggested for a less pretentious dormitory de-

velopment west of Massachusetts Avenue and undertaken perhaps outside of the Institute organization itself through some form of Technology real estate trust similar to the Harvard Housing Trust in Cambridge.

Minimum

Maximum....

Average.....

\$4.50

5.73

14. Distribution of classes in dormitories, including required use by freshmen or otherwise. With increased dormitory facilities it is the general opinion that provision for an increased percentage of freshmen should be made, and opinion has crystallized around thirty per cent to forty per cent of the dormitory accommodations being reserved for freshmen under present existing conditions, the balance being distributed between the remaining three classes and some graduate students. It may not be practicable always to effect just this distribution of rooms in each stairway. Nevertheless the best results should be obtained through as wide and uniform a distribution of freshmen throughout the undergraduate dormitories as practicable. By these means dormitory freshmen should, under the guidance of the upperclassmen, most quickly and effectively be introduced into the traditions and life of the Institute.

15. Portion of student body for which dormitory provision should be made. Although no fixed percentage of the student body could be defined as a positive or permanent portion for which dormitory provision should be made, there is substantial unanimity between the Institute administrative officers and the members of the committee that, upon the completion of the present program involving accommodations for about

800 students, at least the most urgent demand would be satisfied.

16. Administration of dormitories including any principles or items which should be handled by Corporation, by Faculty, by dormitory students. There have been occasional difficulties in connection with our system of student government and resulting criticisms of the system and suggestions to revert some more dictatorial method. In the main the committee believes the results have been very satisfactory and unanimously endorses a continuance of the policy.

Fraternities at the Institute (Statistics cover 23 fraternities only)

Number of frate	rnities at the	Institute		26
Number of frate				22
Number of frate	rnities with pa	artial equity i	n houses	18
Total fraternity	membership, l	February, 192	8	569
Number of mem				460
Average number				25.9
Average number				21
Total value of la				\$807,714.70
Total value of fu	rnishings (20 f	fraternities).		99,624.61
Total value of pr				1,032,339.31
Total encumbra				452,725.00
Total equity (19	fraternities).			551,614.31
	Room Rent	Board per	Cost of	Cost of
	per Student	Student per	House	Equipment

\$7.00

12.00 107,200 70,000 9.56 46,924.51 29,032.33

\$16,700 . \$12,700

Conclusions and Recommendations

1. General Dormitory Features. We approve the Institute's dormitory policy in aiming to provide a maximum of necessary comforts and livability without luxury.

2. Location. Whereas the present location is well adapted to immediate needs and numbers with some chance for future growth, we believe provision for graduate students and perhaps some of the younger members of the Instructing Staff on Institute land west of Massachusetts Avenue

should receive serious consideration, if not be definitely given a place on the Institute's dormitory program.

3. General Layout. To cover present student needs we endorse the general dormitory layout evidenced in the original group and the quadrangle now partially built. We believe that the Walker Memorial should be extended easterly, if not also westerly, and that the cafeteria should be moved into such a new east wing. The room now used as cafeteria should be made into a large lounge for the general student body as originally intended. The smaller lounges and the library might then be used for general student activities. Whereas thus changed, Walker would still provide the necessary facilities for dormitory students, the lounge facilities in Walker as will appear below would in the judgment of the committee not fill the lounge requirements of dormitory students. Whether or not these recommended changes be made in Walker, we recommend that its general appearance from the dormitory quadrangle be made more attractive.

4. Size and Character of Dormitory Units. In our present dormitory development, averaging five stories in height, we approve of the limit of thirty to forty men in one stairway. While not recommending a change in any completed buildings, the committee strongly urges that additional units have double suites intermingled with single rooms. This may be easily done by providing one or more double suites on each floor at each stairway and without materially affecting the

outside appearance. This arrangement would bring the ratio between the number of men to be accommodated in double suites and single rooms more nearly in line with the recommendations of previous reports. We believe such ratio should approximate half and half.

5. Variety of Rooms. Although the original dormitory group included a desirable range or variety, the later units are a bit too lacking in this respect. Some of the double suites referred to in the previous recommendation and some of the double suites in the north dormitory should have fireplaces. An intermingling of variety in the same unit is recommended so far as it may be achieved with reasonable cost.

6. Room Furnishings and Fixtures. We approve of the present general policy in this respect.

7. Care of Rooms. We approve of the present general policy in this respect.

8. Study or Working Features. We approve of the present general policy in this respect.

9. Lounges. The committee recommends that, in addition to the lounge facilities for the entire Institute provided by Walker Memorial, an ample common dormitory lounge with opportunity for desirable recreative and administrative features be provided for each major group including the projected dormitory quadrangle.

10. Physical Recreation. We approve of the present

general policy in this respect.

11. Dining Facilities. We believe that the central dining facilities as at present and as described above in connection with Walker are desirable.

12. Social Organizations in Dormitories. We endorse and recommend continuance of the present Technology policy providing that no fraternity or other social organization as such be housed on Technology grounds.

13. Graduate Students. We recommend provision of dormitories for graduate students and instructors after the needs of the undergraduate body have been met. Such provision might well be of a different character from the present undergraduate dormitory group and separately or differently located as suggested above under Item 2.

14. Distribution of Classes. We recommend that there be no dormitory or dormitory units assigned especially for freshman use; that all classes be permitted in the present dormitories and mixed together, with 30 to 40 per cent of the students in each major unit made up of freshmen, for the immediate future, the ratio or distribution of remaining classes to be at the discretion of the Dormitory Board.

15. Numbers to be Accommodated. We believe that the present chief or essential student demands for dormitory accommodations will be met by provision for approximately 800 undergraduates as contemplated.

16. Administration of Dormitories. We approve of

the present general policy in this respect.

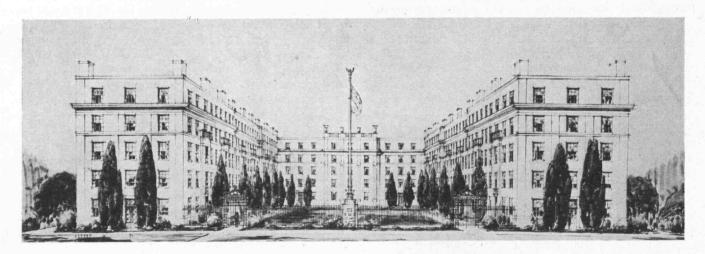
17. Rentals. We approve of the present general policy in this respect.

Respectfully submitted,
A. F. Bemis, Chairman
For the Committee



THE DORMITORY QUADRANGLE

Below: An architect's drawing of the completed group. Only a little more than a month ago students were moved into the two new units flanking the older Class of 1893 Dormitory, leaving the western (left-hand) wing and the connecting building to be provided for and built at some future time. This development is in progress at the eastern end of the Institute grounds to the rear of the Walker Memorial Building. It is in place of the fence in the foreground that the "low one-story building for a lounge" referred to in the foregoing report, item 3, page 413, would be placed. Each of the balconies marks a "stairway," there being two such stairways to each dormitory "unit."



Endowment Funds

Call-

T was the Class of 1923 that first put an endowment insurance plan into operation whereby its members might be able to present a substantial contribution to the Institute's endowment funds at their Twenty-Fifth Reunion. Each succeeding class has made for itself a similar set of arrangements — differing in detail but

with the same ultimate goal in view. The Class of 1928, the present Senior Class, is already conducting its campaign to align its members with a combined endowment and personal life insurance plan which is calculated to make possible a gift of \$75,000 twenty-five years hence. In outline, the 1928 plan is something as follows:

Each participant takes out a \$1,000 life insurance policy upon which he pays an annual premium. The company pays the annual dividend to the Bursar of the Institute who puts it in a separate fund and holds it at interest until the Twenty-Fifth Reunion of the Class. When the amount of the dividends held by the Institute, plus the loan value of each insurance policy multiplied by the number of paid-up participants becomes equal to an amount which, when invested over the remaining years, will yield \$75,000 at the Twenty-Fifth Reunion (a period of from seven to ten years), the insuring company will turn over to the Institute an amount equal to the loan value of the policy. From that time on each man has full equity in his \$1,000 insurance minus, of course, his share of the amount turned over to the Institute. This stands as a loan (of about \$88) against his policy. He may either continue the loan by applying the insuring company's dividends to the interest

upon it, or he may repay it to the company, and thus secure full equity in his policy. Should the participant die before the close of the seven- to ten-year transfer period, the Institute receives \$100 and his personal beneficiary the remaining \$900. This plan differs from those under which the first four classes operated in that endowment insurance is combined with personal

insurance upon the participant's life. The Class thinks, as did the Class of 1927, that a man is more likely to maintain an interest in the insurance if he, personally, will benefit from it.

With the oldest plan less than five years old, it is, of course, too early to even estimate how successful the classes will be, for five years in insurance matters is a short time. Everything depends upon the faithfulness

with which the participating members of any plan maintain their payments. There is, however, every prospect that the goal of each will be attained.

FRATERNITY STANDINGS

THE fraternities are arranged in the order of their relative scholastic standing over the period from June, 1923 to February, 1928. Figures following in parentheses indicate standings at the end of the first term, 1927-28. Standings for the second term, 1926-27, were published in The Review of last November.

- 1 Phi Beta Delta (1)
- 2 Tau Delta Phi (26)
- 3 Psi Delta (6)
- 4 Sigma Alpha Mu (12)
- 5 Phi Gamma Delta (9)
- 6 Sigma Nu (2)
- 7 Sigma Chi (4)
- 8 Tau Epsilon Phi (3)
- 9 Theta Chi (6)
- 10 Lambda Chi Alpha (24)
- 11 Delta Psi (10)
- 12 Sigma Alpha Epsilon (23)
- 13 Kappa Sigma (13)
- 14 Delta Kappa Epsilon (19)
- 15 Phi Kappa Sigma (25)
- 16 Delta Upsilon (14)
- 17 Alpha Tau Omega (11)
- 18 Chi Phi (7)
- 19 Phi Beta Epsilon (8)
- 20 Beta Theta Pi (18)
- 21 Phi Sigma Kappa (16)
- 22 Theta Delta Chi (22)
- 23 Phi Mu Delta (17)
- 23 Phi Mu Delta (17) 24 Delta Tau Delta (21)
- 25 Theta Xi (15)
- 26 Phi Kappa (20)

Anniversaries

There is something about a publication's tenth birthday that makes it seem worth crowing over. Like a boy's twenty-first, a publication's tenth is a milestone; it attracts the attention of the neighbors and sends the older generation of the family scurrying into a corner, each to make a hurried statistical analysis on his own account. Something of that kind must happen in the family of Technology's undergraduate publications, especially where the yawning gap of years separates the four regulars into two groups.

This year Voo Doo, the comic monthly, and next year The Tech Engineering News, the engineering monthly, celebrate their tenth year of existence. Each will undoubtedly honor the occasion by issuing special numbers done upon vellum, by dedicating memorial plaques - perhaps even by the planting of a tree. All this must cause a warm glow of pride to The Tech, the three-times-aweek newspaper, and Technique, the year book, when they check off the years and realize that they too will soon celebrate anniversaries - not a tenth, but a fiftieth. In fact, when the repre-

sentatives on *The Tech* from the present freshman class finish their term of management three years from now, Volume LI will come into being and upon the masthead there will appear its usual slogan "A Record of Continuous News Service for Fifty Years." *Technique* will be entitled to celebrate in 1935, four years later.

Champions

Within the past month, two Technology athletes distinguished themselves by winning their respective parts in formal intercollegiate competition. Laurence D. Luey, '29, went to the New England Intercollegiate Swimming Meet at Williams College and broke the Institute's 150-yard backstroke record with a time of 1:54 5-10. The record he broke was the one he set two nights previously at the meet of the New England Amateur Athletic Union when he covered the distance in 1:55. That, in turn, was more than three seconds faster than his time earlier in the season when he broke the previous Institute record. On the next week-end, Louis J. O'Malley, '28, captain of the boxing team and a comedian in the Tech Show, took his team to Philadelphia for the Intercollegiate Meet. He knocked out his opponent in the third round of the semi-finals of the 175-pound class and outpointed Burke, captain-elect of the Navy, in the finals. The

Technology team placed fourth in the meet. Robert A. Sidur, '30, Robert R. Peatfield, '28, and John J. Bolanos, '30, succeeded in winning their preliminary bouts in the 115-, 125-, and 135-pound classes.

Student Inquiry

Another questionnaire has been submitted to the student body on behalf of the so-called "Student Inquiry" into the curriculum and the relations existing between students and the instructing staff. The first one, sponsored by The Tech, asked for comments upon certain specific courses, but the second asks for more general information involving such questions as: Would you feel it worth while to take courses in psychology, philosophy, religion, and literature if they had to be carried as an overload? Do you favor optional attendance at classes for men well up in their grades? Do

you agree with the sentiment that a friendlier relationship between instructor and student should be encouraged, and if so, would you prefer a system of faculty advisors or a system of required conferences?

Which of the following plans of examinations do you prefer: a-no examinations except the final; btwo or three mid-term examinations plus the final; c - quiz every one or two weeks and no final; d — quiz every one or two weeks plus a final? In what size recitation sections do you think that you could be most efficiently taught?

Nothing has as yet been heard from the second questionnaire, and it is quite possible that nothing

will be until the undergraduate and Faculty committees make their final reports. The first received some attention at the hands of The Tech, the editor of which found in it ammunition for several editorials; but on the whole, it has not appeared to worry the general student body to any serious degree.



What to do with the cardinal and gray striped neckties imposed upon them by the upperclassmen is a question that has troubled. the thinkers of the freshman class for some time. Everyone agreed that the ties which had marked the new men for almost one whole school year must be disposed of in a manner both spectacular and decisive, and a search was at once instituted for a suitable

ceremony. Some would have had it a part of Junior Week, but the majority ruled that it be separate and distinct.

And so it transpired that after drill on April 16 the class assembled on the little grass plot east of the entrance to Walker Memorial, and, attended by President built. This was lighted and as each man marched by he

threw his tie into the flames.

Thus was the first year of the freshman rules brought to an official close. Next year, it seems likely, will seethem reappear with several deletions, but it almost goes without saving that the rulemakers will leave the "tie rule" untouched. Its success has been an unexpected surprise tothose of us who, a year ago, muttered, "Siwash" when the question was first noised around the Institute.



be captains the team

Stratton, Assistant Dean Harold E. Lobdell, '17, Orville B. Denison, '11, and a rifle squad, a tree was planted. Beneath it was buried the tie of the Class's. President, Robert B. Freeman of Portland, Maine. Dr. Stratton threw in the first shovelful of earth and handed the shovel to Professor Lobdell who then added another. A speech or two, a cheer, the sounding of taps, and three salutes from the rifle squad, completed the ceremony. All then lined up behind the R. O. T. C. band and marched to the rear of the baseball diamond where a pyre of old lumber and boxes had been

CLASS ENDOWMENT FUNDS

A statement made by President Stratton and Bursar Ford concerning the endowment insurance plans that have been got under way by all the classes from 1923 to 1928.

THE practice instituted by recent classes for providing gifts to the Institute by means of endowment insurance seems an efficacious and gracious way for our graduates to guarantee the future growth of Technology. We heartily endorse the means adopted, beneficial as it is to both the insured and the Institute, and are appreciative of the loyalty that prompts the graduating classes to adopt and carry through the various plans.

(Signed) S. W. STRATTON H. S. FORD

April 9, 1928

Books

Adaptive Fertility , , Microcosm , , Books in Brief

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The Growth of Population

STANDING ROOM ONLY? by Edward Alsworth Ross. \$4.00. xiv+368 pages. New York: The Century Company.

ALTHUSIAN spectres of an ultra-populous world with limited and inadequate means of sustenance are once more depicted amidst a dazzling array of facts and philosophy. The book is interesting, readable, and worth while, but one can't escape the conclusion that the subject matter could have been condensed materially without losing any of its value or vigor. It is largely a compilation of articles from the author's pen that have already appeared in some of the popular

magazines and scientific journals.

A review of the chapter headings indicates clearly the ground covered. How fast can man increase? The mortality of olden time. The muzzling of famine. The conquest of disease. The throttling of pestilence. Public health promotion. The growth of population. Prospects of augmenting the food supply. The reality of population pressure. Population pressure and war, economic progress and political democracy. The population boosters. The rise and spread of an adaptive fertility. Factors of an adaptive fertility. Women and religion and adaptive fertility. Population tendencies of the Orient. Effects of immigration upon the distribution of national wealth and welfare. Displacement of native stock by immigrant stock. Closing gates. The coming great barrier.

According to the author, there are two factors which are responsible for the population pressure found in the world today. One is the economic factor which has resulted in the introduction of machinery, rapid transportation, refrigeration, water power, and so on, which has made food available in greater quantity and variety all over the world. The other is the sanitary factor which has prevented disease and death and prolonged the average span of life. Vast waste areas existing in the world at the time of Malthus, such as Central North America, South America, Africa, and Australasia, have been brought under cultivation, and only the rich soil of the tropics now exists for further exploitation and population expansion. Much progress has been made in this direction already, but these areas are being used for growing hemp, copra, cocoanuts, sugar, tobacco, rubber, and sisal, and food must be brought from the more temperate zones to supply the needs of the people. With the opening up of these areas for the development of tropical products, the lot of the native has been remarkably improved and the birth rate has increased to greater heights than ever attained before. No longer do famine, disease and death equalize these high birth rates. The people propagate like flies and help to use up the available food resources of the world. The situation

described in India, Ceylon, Japan, China, Java, Jamaica, British Guiana, South Africa, and Porto Rico will give the thoughtful person much food for reflection.

The mere population of the universe should certainly not be the aim of man. At a time when the available waste areas for the cultivation of foods is becoming limited and science through steam, electricity, and sanitation is diminishing space and promoting the physical health and longevity of people, it is wise to take stock of the future. Many of the peoples of the world laboring under excessive birth rates do so either because of ignorance of contraceptive methods or because religious traditions and pressure prevent them from controlling the number of offspring. The solution, in the opinion of the author, is not celibacy, or postponement of marriage, or abortion, or infanticide, or war, disease and famine, but intelligent birth control, or as he prefers to call it, adaptive fertility. In the more enlightened sections of the earth, and especially among the more intelligent people in these areas, this has already occurred. It seems but logical that adaptive fertility should be applied everywhere, and especially among those groups where birth rates are high and life is hard. In adaptive fertility mankind has the key for the solution of some of the world's outstanding political, economic and immigration problems resulting from population pressure. Here, too, is the ultimate solution of the problem confronting the human race, the problem of a food supply the development of which is limited and of a rapidly increasing world population.

MURRAY P. HORWOOD, '16

Facts Concerning the Atom

THE WORLD OF ATOMS, by Arthur Haas. Translated by Horace S. Uhler. \$3.00. xi+139 pages. New York: D. Van Nostrand Company, Inc.

In ten non-mathematical lectures the author has presented a condensed survey of the more important developments in atomic physics. The lectures are systematically arranged to constitute a short elementary course in atomic structure. He states in the preface, "The lectures can lay claim to the characterization popular only in the sense that every lay reader who has at his command a sufficiently general education can begin the reading of the book and continue to the end without great difficulty and with comprehension, insofar as his interest in the subject lends him the necessary patience and perseverance."

The book will appeal strongly to the reader already somewhat versed in these recent advances in chemistry and physics, but who feels the need of having his own ideas confirmed, or clarified, by a specialist in the subject. By careful study of the text he should be able to

(Continued on page 446)

-120

The Secretary of 1917

TERSATILE Secretary, since 1922, of a versatile Class, Raymond Sawtell Stevens has added that of maître d'hotel to a voluminous list of avocations. Being associated with the firm of Arthur D. Little, Inc., and having been during undergraduate days exposed to chemistry in Course XV, he has fallen or been pushed into the chairmanship of the Committee on Housing of the American Chemical Society's powwow to be held in Swampscott next autumn. Unquestionably the office sought the man. Only after the selection, appointment — and acceptance — did Chairman Allan Winter Rowe, '01 (of the General Committee), discover that Mr. Stevens had never enrolled himself with the great, the near great, and the lesser great on the roster of the residuary legatees of the alchemists. As a result the Secretary of 1917 became elected to the Amachemsoc in record time in order that his chairmanship might be legalized.

So it is that a decade after the armistice Mr. Stevens finds himself a billeting officer. Here it would serve convenience to intersperse an anecdote of how his war experiences had embraced inserting forty-one men or nine horses into spaces designed for forty men or eight horses; how he had convinced the Colonel of a Texas regiment that the château (i.e. farm-dwelling) at Notre-Damesur-Oise, recently vacated by a labor battalion, was a most estimable and suitable domicile for his staff; how with a few kind words of bad French and a fluency of Hoboken patois he had quickly mastered the annoyances of being a Town Major or A. P. M.

But in the interests of posterity convenience must bow to truth. For, like many another who gave up his freedom in 1917, our hero had no choice in the matter and was assigned to fight the Second Battle of Long Island. In this engagement he served under the tactical direc-

tion of Colonel Bradley Dewey, '09, at the Gas Defense Plant. Unlike Washington's starving Continentals, troops at the Second Battle of Long Island employed no muskets. Their munitions were vegetarian in nature, for it was their duty to fill gas mask canisters with peach pit char made from the sextillions of innocent peach pits which humble citizens graciously chucked in street corner



RAYMOND S. STEVENS, '17
An imaginative portrait of the 1917 Secretary by Henry B. Kane, '24

receptacles. And from this plant, after kindly treatment by Colonel Dewey and Leftenant Stevens (for he soon became Production Service Manager and in rising thus received the most popular of Army commissions) the residue of the peach pits emerged nicely housed in canisters for the export trade. The theory was that after what the peach pits had been through in the Battle of Long Island they could resist any poison gas encountered.

Peace brought many changes. The influx and efflux of peach pits ceased at Long Island City; Mr. Stevens reverted to civil life and migrated to Chicago to make refrigerating machines. But several months was enough of the Middle

West and he returned to Cambridge, got married, and became associated with the staff of Arthur D. Little, '85, at that time busy making silk purses out of sows' ears and accomplishing sundry other technical feats. Since 1919, except for less than a half year spent as the most successful Advertising Manager The Review ever had, he has been with the Little organization.

He admits no title unless pressed for an answer, in which event he is Service Manager. Just what this implies is a mystery, but it must be a lot, for, when he temporarily departed to join The Review in 1923, the felicitations of a farewell dinner knew no bounds. And his return the following January caused a demonstration equally boisterous.

Aside from writing Class Notes, swimming and planting a garden at Marblehead are his nearest approaches to hobbies. Promptness in getting in copy; success in getting H. P. Eddy, Jr., to supply a good deal of news; frankness in admitting to being no bridge player; asserting his golf game to be the equal of F. Bernard's; respect for style rules and an ability to punctuate with some logic — for these reasons, The Review Editors include Mr. Stevens in this series.

The Grab Bag

The most significant item in this issue is the report of the 1888 Secretary that his Class has pledged an amount sufficient to assure a complete 1888 Dormitory Unit. Three other classes have attained this goal — 1890, 1893, and 1901. — Technology Men and Affairs in California are described in some detail by George L. Gilmore, '90. -Secretary John G. Hall, '92, records what he found when he revisited Is-sur-Tille, the French village where he was stationed as Adjutant at an Advance Depot of Supply during the World War. Mr. Hall writes that he would be glad to send along additional information to any of the many Technology members

of the A. E. F. who were in Is-sur-

The activity of the 1896 organization constitutes a fine example for all other classes. - Professor Blanchard's 1898 Notes might be entitled "The May Review of 1898 Literature." The works of four writers are commented upon, along with notes about a college president, the Wing family, and lead smelting in Mexico. - Retribution finally overtakes the Secretary of 1899. During his absence in Europe the legal-minded Asec of the Class rushes into print with the truth about the man. The worm will turn!

The story of the controversy in New York raging around the position of State Architect is reported by George E. Russell, 'oo. - The Review seismograph of late has recorded no disturbances in or about Wesleyan Station, Conn. — Perhaps members of classes other than 1907 might obtain full particulars of what happened to the hippopotamus, his keeper, and the old maid mentioned in the letter from Parker Dodge in the 1907 section. There is an another animal story in the 1901 Notes that may or may not match it.

The many achievements of the late Professor Arthur C. Besselievre, '09, Marine Architect, as told in the Notes of his Class, constitute a story of genuine biographical interest. — Azel Mack, '15, proposes an organization, "The S. P. C. C. S.," that should be well received in secretarial circles. - Miss Gretchen Palmer, 1918 Secretary, proposes to outdo 1917 in holding a reunion. — An eighty-acre gold fish farm is reported in the 1921 Notes. — The Class of 1921 started something last month that the Secretary of 1922 hastens to finish. Not angry, only hurt, he declaims, "How sharper than a serpent's child is an ungrateful tooth." - The Course XV, 1927 Secretary is doing a good job.

Six births are reported this month — one each in 1913, 1923, 1924, 1926 and two in 1921; four are girls.

Deaths

Additional mention of the following men, recently deceased, may be found in the notes of their respective classes:

STURGIS H. THORNDIKE, '94. Died February 16, 1928. For a number of years he had been a partner in Fay, Spofford and Thorndike of Boston.

WOLCOTT REMINGTON, '00. Died March 19, 1928. He was Vice-President and Director of the Thomson Electric Welding Company of Lynn.

WILLIAM PEARCE RAYNER, '07. Died February 29, 1928. For fifteen years he was Washington district manager of the White Company, manufacturers of motor trucks and busses.

WILLIAM ELLIOT WEINZ, '08.

Died February 9, 1928.

ARTHUR C. BESSELIEVRE, '09. Died December 28, 1927. An authority on shipbuilding during the World War, he was Dean of the Faculty and Professor of Naval Architecture at Webb Institute of Naval Architecture, of New York.

RICHARD J. McLaughlin, '17.

Died March 7, 1928.

FULTZ A. HOOPER, '24. Died February 15, 1928. He was with the Utah-Apex Mining Company at Bingham Canyon, Utah.

Plans are being considered for the Forty-Sixth Reunion which will undoubtedly be celebrated in June, by a shore dinner held within comfortable traveling distance from Boston. As usual the ladies will add their attraction to the occasion.

Nothing having been heard of late from Johnson, a registered letter finally brought from him the following brief note postmarked Los Angeles, March 8: "Not dead, and not even sleeping. I owe you an apology and hardly know why I have delayed so long in writing. I am leaving for the North tomorrow morning as early as I can get away and may write at length from there." - WALTER B. Snow, Secretary, Statler Building, Boston, Mass. Rufus F. Herrick, Assistant Secretary, 24 Milk Street, Boston, Mass.

Sanford E. Thompson has moved recently to his new offices and laboratory in the new Statler Building, Boston. -Space was lacking in the last number of The Review, containing notes from our Class to include the one stating: "The Stanford University Press has recently published Mr. Child's book, 'Landscape Architecture, A Series of Letters,' and have this to say of it: 'Progressive men and women who take pride both in their homes and in their communities, will find here a veritable mine of information on Landscape Architecture and City Planning. In no other single publication on these subjects is there presented so much that is pertinent and important. Mr. Child has had

wide experience in both fields: from this experience and from manuscripts and reports, in some instances never before published, and in many cases long out of print, he has culled the material for a presentation of definite principles of both Landscape Architecture and City Planning." [This book was reviewed on page 233 of The Review for February. -The Editors.] - Subscriptions sufficient to assure the building of a Class of '88 Dormitory Unit have been received.

Be sure to plan to attend our Fortieth Reunion to be held at Great Chebeague Island, Casco Bay, Maine, June 22, 23, and 24. - WILLIAM G. SNOW, Secretary, 38 Chauncy Street, Boston, Mass.

On February 23 the American Institute of Mining Engineers held a meeting in New York during which George A. Packard was chairman of a session on mining methods. Mrs. Packard is chairman of the Women's Auxiliary of the Boston section.

Your Secretary with Mrs. Gilmore left in January for California and Honolulu. A day was spent in Chicago when he tried to get in touch with some of the gang, but nothing doing. They must have heard he was coming. Telephone inquiries at the offices of Douglas Flood and Harry Kern reported both well and apparently behaving themselves. A call at the office of Benton Sturges gave a nice chat with his charming secretary. Benton is a hard worker. He comes to his office occasionally on Monday; other days he is busy on the golf course at his home town of Geneva.

In Pasadena a nice time was had with George E. Hale in his little observatory where the Corporal is having the time of his life gazing at the stars. Some boy! While there Arthur Noyes, '86, dropped in and looked as natural as ever and with the same twinkle in his eyes. Sam Storrow dropped in one evening and they had a nice visit together. Sam is a consulting engineer and seems to be a busy chap. His office is in Los Angeles, and he has a very attractive home in Pasa-

A call on Burdett Moody at his office in Los Angeles found him on the job. Burdett is business manager for the Los Angeles Light and Power Company and is certainly a busy man. It is one of the few municipally owned companies that seems to be making a success of it. He has been called upon to make a number of talks relative to the Boulder Dam Bill. Needless to say that since the recent break of the dam above Santa Paula he has been kept on the jump. In Santa Barbara, Reverend George F. Weld is located. George is a real sky pilot and about the busiest man in town. He spends most of his days at the rectory of All Souls Church in Montecito where he is the regular parson. He is in constant demand to deliver talks and sermons throughout the surrounding country. He has a beautiful home on the ridge above Mission Canyon. It is a little place of only about sixty acres. If any members of the Class are doing good work, George is one of them.

Your Secretary called on John B. Henck, '76, and had a nice chat with him. He represents the English Speaking Union in Santa

Barbara. Will Bovey, '94, was also here and your Secretary had a good round of golf with him. At the Rotary Club, March 23, Dr. Pritchett was the speaker. His subject was "The Profession of Politics," a most interesting talk. Your Secretary had a nice chat with him. They had not met since the Doctor was at Technology.

On arriving in Santa Barbara Mrs. Gilmore was not well, so x-rays were taken. It was found she had an ulcer due to infection from the tonsils so she went to the hospital at once and out they came. Dieting then followed, but after four weeks she was able to return to the El Encanto to recuperate. No better place could be found. Time passes rapidly with motor rides, golf and walks. Her Ladyship is gaining fast but they will probably not return home before May. After that date your Secretary would be glad to see any of you and is also ready to tackle any of you at golf. — George L. Gilmore, Secretary, 57 Hancock

In order that the Editors may not have to insert their paragraph about not receiving anything from the Secretary I

Street, Lexington, Mass.

anything from the Secretary I am sending this personal note. Last fall I joined the Second A. E. F. and spent a very pleasant few weeks in France visiting the places in which I had been during the war and renewing friendships and acquaintances. Everywhere I was received with great cordiality, but perhaps the most pleasant and lasting impression I got at Is-sur-Tille, where I was stationed for eighteen months as Adjutant at the Advance Depot Service of Supply. I here had an interesting visit with the Mayor of the town who was Mayor eight years ago. He showed me with no little pride the monument the town has erected in the square opposite the church, a monument such as may be seen in nearly every town and village in France, but with a difference. At first the difference did not dawn upon me, but when I noticed that the names on one side of it were all French and the names on the other were of every nation, nearly, under the sun, I realized that this monument was not alone commemorative of the men of that town who had died during the war but also to keep alive the memory of the hundred or so men of our army who died there and had been buried in the cemetery that we had established. This cemetery is now closed and the men reburied in one of the few large cemeteries, but while it was there the people of the village held commemorative ceremonies on All Saints Day and our Memorial Day. It was at considerable trouble that the Mayor was able to get these names, and the whole thing to my mind shows the kindly feeling this part of France, at any rate, had for the Americans who must have been a very disturbing element in their lives during the two years that the 30,000 foreigners were living in their midst. Among these 30,000 were a considerable number of Technology men, and if this paragraph comes to the notice of any such I should be glad to tell them more about how the place looks after eight years if they are interested enough to write to me.

And now to change the subject abruptly, have you subscribed to the Dormitory Fund?

— John W. Hall, Secretary, 8 Hillside Street, Roxbury, Mass.

The Boston Evening Transcript for March 21 carried an illustrated article on Charles G. Abbot, who has recently been made Secretary of the Smithsonian

Institution, a position which Dr. William H. Welch, dean of the medical profession in America, calls a kind of premiership of science in America. This article covers something of the same history that was given in the April issue of The Technology Review last year shortly after Abbot lectured at the Institute. Norwin S. Bean has recently been elected President of the Manchester National Bank. In addition to this responsible position, he is also Treasurer of the Manchester Savings Bank. For a number of years Bean was bank examiner and later held a federal position as chief examiner of the Federal Farm Bureau. He is reputed to be one of the best informed men in the country on matters of finance.

It is with very great regret that we have to record the death of Sturgis H. Thorndike on February 16. A Bostonian by birth, Thorndike was graduated from Harvard in 1890, and then entered the Institute with the Class of '94, taking the Course in Civil Engineering. On account of illness in his senior year, he was obliged to leave before graduation, but returned and took his degree with '95. His class affiliations, however, have always been with '94. For a number of years Thorndike was a partner in the engineering firm of Fay, Spofford and Thorndike, now of 44 School Street. Previous to his affiliation with this firm he had been connected with the engineering department of the City of Boston, and for a time was instructor in Civil Engineering at the Institute. His broad interests, genial personality, and fine character endeared him to a very large circle of friends and he will be very greatly missed at the time of the quinquennial meetings of the Class.

I should like to call attention to those who have not replied to communications regarding the '94 Dormitory Fund campaign. This is our opportunity not only to be of splendid service to the Institute, but to establish a memorial to the Class which will perpetuate our names long after we have passed into oblivion. In order to meet the requirements for the unit which we should like to have represent the Class, about \$35,000 more is needed. The Secretary will greatly appreciate coöperation of the class members in this matter. The committee proposes to carry on its campaign until we are assured that every living member has been reached, and it is anxious to have every living member represented in the fund. SAMUEL C. PRESCOTT, Secretary, Room 10-405, M. I. T., Cambridge, Mass.

The last issue of The Review contained a brief notice of the death of a noted classmate, Mrs. Alice Peloubet Norton, which occurred February 23, 1928. The

which occurred February 23, 1928. The following is a condensed statement from her obituary in the Boston Evening Transcript: "She was born in Gloucester on February 25, 1860, the daughter of Francis N. Peloubet, D.D., who was a well known author of his day. Miss Peloubet graduated from Smith College in 1882 and the following year she married Professor Lewis M. Norton of Technology. After her husband's death she

decided to fit herself for work in home economics and studied in 1896-1897 at the Boston Normal School of Household Arts and the Massachusetts Institute of Technology. Smith College conferred upon her the degree of Master of Arts in 1897 and she served as alumnae trustee of that college from 1905 to 1908. Her first teaching of home economics was in the Brookline High School and this was followed in 1900 by a position in Chicago where she served as assistant professor of home economics and later of household administration in the University of Chicago in 1901-1913. Following this she was appointed dietitian of Cook County (Chicago) institutions. In 1915 Mrs. Norton became editor of the Journal of Home Economics and also served for three years as secretary of the American Home Economic Association. She gave up her editorial work when she was asked to go to the Near East to organize a department of home economics in the Constantinople Woman's College under the auspices of the Association. Through her efforts the department at Constantinople was established on a sound and lasting basis. Returning to America in 1923 she became acting head of the home economics department of Indiana University where she remained a year.

"She was director of the Chautauqua School of Domestic Science and during the war she was in the editorial department of the United States food administration and later under the war savings division of the Treasury Department. She was the author of many books and articles dealing with food and home economics. She is survived by five children: Miss Margaret Norton of Northampton, John Foote Norton of Chicago, Mrs. E. H. Lorenz of Hartford, Conn., Mrs. G. W. Swain of Chicago, and Lewis Mills Norton of New York."

An indirect report that Bert Thompson is under the weather made the Secretary call his office for more definite information. It was learned that Bert had been taken sick in December with bronchitis, but seemed to be well on the way to recovery when a mastoid developed in one ear and he was obliged to go to the hospital for an operation. This was successful and resulted in his final recovery. He and Mrs. Thompson had planned a long Mediterranean trip beginning in January, but on account of his illness they did not sail until March 6, and in consequence their trip will be considerably shortened as they are to return about the middle of June.

A recent issue of the Boston Evening Transcript contained reference to the valued work of George Harkness on the highway bridges of Massachusetts. His official position is bridge engineer in the department of public works, and in this position he has oversight of the construction and maintenance of all state bridges. The magnitude of this work is indicated by an annual budget of nearly one-half million dollars. This bridge work is notable from the number of bridges rather than from the existence of any large and spectacular ones. In addition to the bridges of the state highways, his office is required by law to pass upon the plans of all town and city bridges over twenty feet in length. The Secretary was unable to verify all of the foregoing facts from Harkness personally because inquiry at his office brought forth response that he was

absent on a vacation and it was understood that he was making a trip to Bermuda.

The Secretary recently had a call from Dean Batchelder, who is a senior student at Technology in the Department of Electrical Engineering. He reported that his father, Charlie Batchelder, and his mother were making an automobile trip to Florida on a combination of business and pleasure and would return home to Melrose some time in April. The call from this boy was most welcome and if any other classmates have boys at Technology at the present time, or may have them in the future, similar calls by these boys will be equally welcome.

Through another student at Technology has come an interesting bit of information. In the sophomore year of the mining course is D. R. Agar, who comes from Dominica, British West Indies. Having this student in his department, the Secretary, in his professorial capacity, interviewed Mr. Agar for information regarding our classmate, Andrew H. Green, who has for many years had the address of Canefield, Dominica, B. W. I. It was learned that Green has a plantation of several hundred acres which is considered to be one of the largest and best plantations of the Island. His payroll includes several hundred men. His main industry is the raising of limes, but he also produces a considerable quantity of vanilla beans. His limes largely go into the manufacturing of concentrated lime juice and this is all prepared in a model grinding mill and factory. Mr. Agar also believes that Green produces citrate of lime as well. The curing of the vanilla bean is carried out on modern, scientific principles, but the exact nature of the process is not given out.

Green is one of the leading men of the community and is interested in the local hospital and in various community enterprises. He has been a wide traveler having made several trips around the world, and occasionally comes to New York, but so far has apparently never been back to Boston to look over the new Technology. Up to the present time Green remains single, finding apparently that he has so many interests in his busy life that he has not felt the need of a wife. Any one who knew him as a student and who followed his engineering work after graduation can readily appreciate that his plantation and plants must be models, with modern machinery utilizing gravity methods of flow as far as possible. Perhaps one might be struck by the absence of modern transportation which is still carried on by oxen of which he has a large herd. The reason for this is, however, that under local conditions motor transportation cannot compete in final cost with oxen.

Mike Sturm, who announced that he was going to visit Boston and see some of his classmates, has come through with an explanation to the effect that when he and Mrs. Sturm arrived in Boston they found Mrs. Sturm's mother very sick so that they could stay only a couple of days. Therefore they found it impossible to carry out their original plans of seeing other people.

John Rockwell, who has been made a member of the Wrestling Rules Committee of the National College Association, attended the meeting of officers at Des Moines, Iowa, the last of March where he had an opportunity to broadcast his ideas on the promotion of healthful sport. He is keenly interested in athletics for the benefit of the athlete rather than for the benefit of an organization or the spectator. In other words, he is trying to overcome the modern tendency of athletics, in some quarters at least, to cause young men to consider that the only object of athletic contest is to win, no matter how much the contestant may suffer as a result.

On Thursday evening, March 1, President H. S. Boardman of the University of Maine talked before a gathering of over one hundred Boston Alumni at the Hotel Westminster in Boston. His theme was that modern youth is potentially all right and has more dynamic possibilities than any of his ancestors in spite of the opinions of some that the youth of the

country is going to the dogs.

Those who attended our Thirtieth Anniversary at Osterville will recall that the Class sent a cordial message to Woodwell's aged grandmother in Newburyport, and will consequently be interested to know that this estimable lady is still living and enjoying her faculties, and celebrated her 103d birthday on March 16. Woodwell was in attendance, of course, and on the following day he gave the Secretary the pleasure of a call from him at Technology. He reported that his grandmother had received a birthday message from Dr. Coolidge. Woodwell's most recent work has been on the addition of a 20,000 kilowatt unit to the municipal plant at Lansing, Mich. This is the third job he has had in connection with this plant which now has a total output of 45,000 kilowatts and represents an expenditure of around \$4,000,000. An article by Woodwell on the results of steam turbine tests appeared in Power Plant Engineering, the issue of February 15, 1928. These tests showed a high economy. McGonigle had some connection with this work as a sub-contractor. When asked whether he had done any flying recently, Woodwell said that he flew to Long Island on a short trip in January and that he was maintaining a keen interest in aëronautics. He made an automobile trip to Denver and back last summer, covering 3,637 miles in two weeks, but really about eleven days of actual traveling, so that although really not in an airplane the speed with which he covered the ground by auto might cause his Colorado trip to be designated as a flying trip. While in the Rockies he visited Pikes Peak, Estes Park, and Rocky Mountain Park. - CHARLES E. LOCKE, Secretary, Room 8-109, M. I. T., Cambridge, Mass. John A. Rockwell, Assistant Secretary, 24 Garden Street, Cambridge, Mass.

'98 R

One Sunday recently, Ernest Russ and Arthur Blanchard met Charlie Wing at Middle-

boro and were driven over various parts of the Cape to decide on the merits of various places at which our Thirtieth Reunion might be held. Apart from the main purpose of the trip, a most enjoyable day was spent. The Wing family is one of the oldest and largest of the old Colonial families of America. We visited in Sandwich the oldest house in America built by Stephen Wing in 1641, and still inhabited by a Wing family. Near by was the old meeting house of the first Society of Friends in America, and in

the graveyard were many of the early Wings. Charlie is an enthusiastic fisherman, belonging to a Cape Cod club, which has many private fishing preserves in that region. Charlie promises all fishing enthusiasts who come to the Reunion the most glorious opportunity to indulge their tastes. We had dinner at the headquarters of the Club and there were some enthusiasts there who had brought in handsome catches of trout. It was February 26, the coldest day of the winter. I innocently asked Charlie if the trout were caught through holes in the ice and was completely withered by the look of scorn in his face when he said that members of the Club fished only with flies.

Charlie has just been reading Tom Tallmadge's new book, "The History of Architecture in America," and was greatly enthused thereover. He had with him a review from the New York Times from which we will clip a paragraph. "This book is not only what it claims for itself, 'the first consecutive history of architecture in America,' it is also the story of a significant and prophetic cycle of our national culture. Architecture is necessarily the most imitative of the arts - it has to be, since buildings erected without regard to precedent have a way of falling down. American architecture began with the Spaniards at St. Augustine, the English at Jamestown, and, more sternly, with the crude efforts of the Pilgrim Fathers to shelter themselves against the unfriendly winters of New England; it continued through periods of imitations and importations, good, bad, and terrible; and it has now reached a point at which it speaks the architectural language of the ages with an accent all its own. In short, America has architecturally come of age. As Mr. Tallmadge says in summing up our pretensions in this respect: 'Previous to 1893 there was not a single class of building in which we excelled or even equalled contemporary work in the mother countries. . . . Today there is hardly a single class of structure in which an excellent claim cannot be advanced for either our supremacy or our

The Engineering Economics Foundation of which Hollis Godfrey is President and Chairman of the Boards, held a convocation February 9, at which the summarized results of the Foundation's researches and wealth were presented by Hollis and several prominent men. Dan Edgerly has recently run into two members of our Class and sends in the following notes: "Raymond M. Hughes will be remembered by Course V. He was with us at Technology for a year after graduation from Ohio State University. For a number of years he has been President of Miami University, Oxford, Ohio. Last fall he became President of Iowa State College, Ames, Iowa. This college has 4,000 students and a magnificent set of buildings. Last week I was in Ames and met Hughes for the first time since graduation, needless to say, thirty years ago. However, the time element was quickly brought up to date after we had exchanged information about many of our chemical laboratory associates. Hughes stated that his boy had graduated from the Institute.

John N. Goddard, who has for a number of years been in charge of a lead smelter in Torreon, Mexico, recently made one of his periodical trips to the States. Jack always

looks me up when he comes to St. Louis, and when I asked him if it was last year or two years ago that we had dinner together, I found it was three years ago, which is only evidence that time passes rather quickly.

Seth Humphrey has been staying in Boston this winter and is writing up his African travels. A press notice of his last preceding book which has just come to our attention we think is interesting enough to abstract here: "In Seth K. Humphrey's book, 'Loafing Through the Pacific,' a tale mostly of browsing around among peoples, the author observed no set schedules; he was not dependent on guides. He loafed his way along and in his book tells what he saw. . . . And he took all the time he needed — fifteen months. The author comments: 'In this wide circuit of the Pacific are the oldest and newest of existing civilizations. Where else in life is such fascinating variety?"

We have just received a little booklet from Wendell W. Chase entitled "The Answer to Your Question." The question is "Is there a practical solution to our National Automobile Traffic Problems?" The booklet is published by the Union Highways Association of America, an organization formed not for profit but merely to encourage, promote, and aid in plans for the construction and maintenance of adequate automobile express highways in the United States and other countries of the Western Hemisphere. The booklet indicates how it may be possible to finance, build, and maintain through express roads without grade crossing or intersection. Chase is one of the three organizing directors of the association. It appears on the official page that he is also President, The American Home Foundation, Inc.; member, City (New York) Committee on Plan and Survey; Vice-President, New York Automobile Club (A. A. A.).

Orville B. Denison, 11, the Alumni Secretary-Treasurer, in his recent tour about the country, went down to Old Hickory, Tenn., where he was shown through the du Pont rayon plant by our classmate, James F. Muhlig.

We have just heard that Tallmadge was granted the honorary degree of Master of Arts by Northwestern University last June. Following is the official announcement: "Master of Arts - Thomas Eddy Tallmadge. Architect, with special interest in the planning of churches; Fellow of the American Institute of Architects; Professor of Architectural History in Armour Institute of Technology; lecturer at the Art Institute of Chicago; Vice-President of the Chicago Society of Etchers; for some time President of the Art Commission of the City of Evanston. Distinguished contributor to the literature of his profession and of other fields of art; painter of enviable attainment; a versatile man of liberal culture." - ARTHUR A. Blanchard, Secretary, Room 4-160, M. I. T., Cambridge, Mass.

Comes now the deponent, Arthur H. Brown, Assistant Secretary of the Class of '99, who herewith deposes and avers that the following is true to the best of his knowledge and belief: W. M. Corse, Secretary of the Class of '99, sailed for London, Paris, Oslo, Stockholm, and points north, on the 25th of April, 1928, leaving to

the deponent the task of filling The Review column for the May issue. The deponent did accept, because there was no choice in the matter, the business of filling the column. The deponent did first examine carefully the file forwarded by the honorable Secretary, and therein he did find a scant portion of news. Before disclosing said news the deponent wishes to take this opportunity to call attention to the fact, among other things, that our Secretary does not practice what he preaches.

It is not so long ago since we received a communication from him in which he asserted that the use of the pronoun "I" in composition and letter writing is not bad form. He even cited a grammatical rule to support his assertation. We have forgotten the rule, but some two score of us took his statement in good faith, and we laid bare for him details of our personal and public activities, all prefaced by the ubiquitous pronoun "I." But did our Secretary go and do likewise? Did he contribute personal tidbits? He did not. He maintained a discreet silence so far as he was concerned, but he wrote us another letter in which he told us he would fill the column with fairy tales, or maybe fiction - one is as dangerous as the other - unless we came across with news.

Again we sacrificed our natural diffidence on the altar of class honor. We girded our spirits and lashed our pens to the task of "blowing our own horns even though reluctantly," as one harried contributor put it. But blow them we did. We told our Secretary of books published and in the making, of travels and diaries of travels, of explorations and excavations, gold mines and fox farms, inventions and mortgages, of our children and our grandchildren — speaking of grand-children, our Secretary has a grandson, aged one year. This is news to me. Inasmuch as I am running the column I must make grist of all that comes to hand, and I hope it is news to the rest of you.

I might as well take a paragraph or two to talk about our Secretary, now that he is where he cannot help himself, because I think the Class of '99 is entitled to know something more about the person who implores and browbeats us by turn. W. M. Corse lives in Washington, D. C. - that is, he stays there sometimes. George Priest actually caught him in town once. When I hear from him he is either just arriving or leaving, but he sees to it between his comings in and goings out that we are not allowed to forget our duty to '99. He is the Secretary of the Institute of Metals Division of the American Institute of Mining Engineers, of the Directors of Industrial Research, of the Technical Executives Group, of the Aluminum Bronze Manufacturers' Institute, as well as of the Class of '99. He serves on more committees than I can remember, and he is the President of numerous other things, one of which is the Washington Society of M. I. T. He may not always attend all of the meetings incident to such a program because natural physical laws do not permit an object to be in two places at the same time, but he knows all that is going on, and what he doesn't know he asks about.

Our Secretary spent considerable time during his vacation last summer motoring around New England and New York hunting a place to hold the Thirtieth Reunion in

1929. Incidentally he is expecting us all to be present. He specializes in non-ferrous metallurgy, on which he is an authority, and sales development in which he is successful. I have seen his name on several articles during the past year or two, and on other occasions I have heard - too late to get it into The Review except as ancient history - that he had been lecturing on weighty subjects.

Our Secretary slipped away on April 25, after failing to keep a luncheon appointment with Harry K. White, saying only that he was sorry to have to burden me with newsgathering, but that business called him abroad. He omitted mentioning the fact that he was to deliver an address before the Royal Society of Industrial and Scientific Research in Stockholm. He might at least have contributed that much to filling space. However,

it was discovered in time.

Your deponent herewith relinquishes the first person narrative and will leave the other contributors to tell their stories in their own words. — George H. Priest: "I left on January 18 from New York on a twenty-five day cruise which included Jamaica, Canal Zone, three ports in Colombia, South America,-Port Limon, Costa Rica, and Havana. The trip was made on one of the United Fruit boats and I can recommend it highly for any one looking for a good time and a good rest. Following my return from this cruise I spent the latter part of February at our summer camp in Ashburnham, Mass., for the purpose of getting back some of the 'pep' which was lost in the South. The result was entirely successful and I am now back on the job as good as new.'

Ross Hasbrouck: "Modesty has deterred me heretofore from thrusting upon you and thus into print the details of my very unsensational and most unromantic career. Except for the very first years when I was a mining surveyor in Globe, when Arizona was still a 'wild' territory; a return east from there through Mexico when Porforio Diaz was still President, including a stop at Havana while the Stars and Stripes were yet flying over Morro Castle; a trip to Panama during the first year of the Great War when the Canal was closed by reason of the slides in Culebra Cut; the last but not least, a brief service in the Army of the United States during the last year of our participation in the Great War, when training had attained to its maximum of thoroughness and strenuosity; - except, I say, for these few episodes in my life there has been nothing but the utmost commonplaces to record, nor has there been any achievement to catalogue for the glory of old Technology. Nor had I the gift of an Arnold Bennett to make an interesting story out of the commonplace. And so you have my reason for silence and a bird's eye view of my life in one.

"I have added two to the population of the world — a boy graduating from Williams this year and a girl in her second year at Mount Holyoke, from both of whom I am hoping that the world will hear more of than from their dad. I may add that I look forward to our Thirtieth Reunion in 1929 with great expectations. I hope we can get a goodly number together then. If we do, I know that our fifty odd years will not keep us from having a jolly time. We may be back numbers in the eyes of our children, but those who

grew up in the Gay Nineties will always be able to enjoy themselves among their kind. Sometime I may tell you of my present occupation which is that of trying to add an area of beauty to my old home town."

Diary of Arthur Hamilton, continued from

the April Review:

"August 20: Quiet sea, just a little roll, not enough to do any harm. Rather ashamed of having to eat breakfast alone. T. R. is evidently not much of a sailor. At breakfast I observed that the Captain's table was surrounded by two passengers, very good looking, quite smart, and speaking a language which I do not understand. I am always attracted by a passenger who speaks a language that I do not understand. If she is not interesting in what she has to say you never know anything about it, and you can imagine that she is as interesting as you hope she is. The accessory male passengers seem to be as much interested in the ladies who spoke the language that I do not understand as I was myself. There were two of them and these seemed sufficient to start with - one for T. R. and one for me. . .

'After breakfast I got hold of the steward and learned that the two passengers at the Captain's table were, one from Austria and the other from Russia by the way of Sweden. Reported the whole matter to T. R. and offered him the Swede who had a Russian overtone. He accepted since he once knew a good cook who was a Swede. Further investigation revealed the fact that the men at the Captain's table would not be likely to seriously interfere with our prospects. They consisted of a German bacteriologist, an Assistant Postmaster General, and a German Major General. The Captain himself is the only risk and he has to run the ship so that his time is likely to be pretty well taken up. Everything looks well set for a pleasant

voyage."

It has been reported to the deponent that several '99 men met in New York during the sessions of the American Institute of Mining Engineers and had informal luncheons and meetings. Among them were Norman Rood and Jerry Street of Wilmington, Haven Sawyer of Bangor, Lawrence Addicks, and our honorable Secretary.

The following report of a lecture by Dr. Miles Sherrill has been reserved by the deponent until the last. The counting of atoms and molecules is a proposition that can better be told about by the interviewer than anybody else and the story follows. . . [The lecture was described in The Review for April, page 335.—The Review Editors.]—W. M. Corse, Secretary, 810 18th Street, Washington, D. C. A. H. Brown, Assistant Secretary, 53 State Street, Boston, Mass.

Just a little late for our last appearance came a news item concerning Sullivan W. Jones, whom many will recall as being one of us in those first days of '96. On February 9 of this year Jones resigned his position as architect for the State of New York, and the New York Times of February 24 published his reply to a reported announcement, made by Col. Frederick S. Green, State Superintendent of Public Works, that the State's new office building at Albany would cost at least \$1,100,000 in excess of the

original estimate made by Jones when state architect. The statement made by Jones follows in part: "That the building will cost considerably more than originally estimated, every member of the Sites and Building Commission, including the Governor, has known since June 2, when an order was issued to the contractor omitting work in the upper part of the building and so providing \$425,000 needed to pay the additional cost of extravagant and unnecessary changes in the foundation design, as recommended by a majority of the Board of Engineers appointed at the request of the Superintendent of Public Works. Even the retaining wall constructed to keep the Fort Orange Club from sliding into the hole represents a waste of funds. No such retaining wall was required even by the change in foundation design.

"Another item of unnecessary additional cost is the \$20,570 which the Superintendent of Public Works has agreed to pay the contractor for erecting the steel at the Washington Avenue and State Street ends of the building while excavation was still going on in the central portion. Not only was this procedure unnecessary but it was also inadvisable and hazardous. It was done in the interest of political expediency to stop the Republican Legislature from asking em-

barrassing questions.

"No one can estimate the final cost to the State of stripping the State Architect of his responsibility and authority under the reorganization of the State Government and giving that responsibility and authority to a builder of highways and canals who knows nothing about building construction.

"Probably there will be several hundred thousand dollars of claims against the State growing out of the work on the office building which, in my judgment, the contractor will have no difficulty in collecting. This does not include claims for damage which the Fort Orange Club will collect unless the State buys the club property, as has been suggested, to cover the trail of incompetency and engineering blunders committed by the Department of Public Works. This incompetency has been displayed not alone on the State Office Building at Albany, but also on the \$6,000,000 mid-Hudson bridge at Poughkeepsie, where one of the great cofferdams has tipped over at more than forty degrees, delaying the opening of the bridge six to eight months, and in the end costing the State an additional million dollars, if I am any judge of where the responsibility lies."

Sad indeed is the news that on March 19 Wolcott Remington died of pneumonia at the Lynn Hospital. He had planned to attend the gathering of the Class held March 22, but was suddenly stricken and died after a few days' illness. The announcement came as a shock for he had been in good health ever since his western trip two years ago, and had been with us at every recent gathering. To his wife and sons go our deep sympathy and expression of great loss.

Remington was Vice-President and Director of the Thomson Electric Welding Company, into which he had thrown all his talent and energies for some years past. During the World War he was at the head of a Canadian munitions plant and received a citation and medal of honor from the British

Government in recognition of his services.

We shall always remember his unflagging interest in class affairs and those who attended the Twenty-Fifth Anniversary recall the contribution he made to the pleasure of the occasion. Besides his wife, Evelyn Rogers Remington, he leaves two sons, Roger W. and Philip Remington.

At the time of writing, news has come that Neall is in Europe for a few weeks, visiting his wife who is ill. — Elbert Allen is traveling in Oregon on a business trip. — Harry Osgood is back in Boston, and has settled down in Winchester to live. He is associated with the Anthracite Coal Operators Association of Pennsylvania as combustion engineer and his work is to look after the anthracite service in New England. His appearance at the recent class gathering was the first in many years and we were all glad to see him back.

On March 22, twenty-two of us met at Walker Memorial and sat down to a modest meal. Some had been absent a long time, and the coming together was so enjoyable that another one is planned for the middle of May. The list follows: Ashley, Bowditch, Brigham, Burns, J. B. Conant, Cotting, Dunbar, Everett, Davis, Howe, Jennings, Hurd, H. E. Osgood, I. Osgood, Patch, Perry, Richardson, Silverman, Stearns, Walworth, Ziegler, and Russell. It was a goodly turnout and a pleasing thing was the receipt of nearly twenty replies from others, who were unable to be present, but promised to do better another time. After dinner a short discussion of class affairs followed and then everybody adjourned to the bowling alleys. Fred Everett drove all the way from Concord, N. H., to be present, and declared the fun was worth the trip. Fred is highway commissioner for New Hampshire, with headquarters at Concord. He reports a tough winter in that section in so far as it affected the roads. Little snow and great variations in temperature caused frost conditions which heaved the roads to an unusual extent.

George Ashley is still at Northeastern University engaged in teaching the young engineer to know his pencil and eraser.—
Brigham is happy because a long strenuous job well done now lies behind him. During the past year he moved the plant of the New England Confectionary Company from its old place in South Boston to its new home in Cambridge, having previously spent many months in the design and erection of the new plant.—Silverman expects to go abroad soon to inspect a new Diesel locomotive which is being built in Germany for the Boston and Maine Railroad. It is the second of its kind built, having a direct drive on the wheels.—George E. Russell, Secretary, Room 1–272, M. I. T., Cambridge, Mass.

Evidently goaded into action by the impressive address of Fred Clapp, Jack Eveland has left Patrick McGovern to get along as best he can and has started for the Argentine Republic in the interest of Dwight P. Robinson and Company. Jack and Mr. McGovern have been building the 53d Street subway in New York, but from now on Pat will swing the pick alone. Jack is still in the subway game, however, and is in Buenos Aires for the purpose of constructing one

through the business center of that Paris of

the southern hemisphere. He is to be a division superintendent in charge of the tunnel sections. That he who runs may read I enclose his address: A. John Eveland, care of Cia. Tramvias Lacroze, Corrientes 4002, Buenos Aires, Republica Argentina.

Eddie Fleming, for many years with the American Smelting and Refining Company and who most recently has been in Salt Lake City, is to be transferred to the New York headquarters. It is understood that this promotion has been made in order that Eddie may bring his skill and experience to bear on the solution of the problem of the Technology clubhouse of New York. Prior to settling in that arid waste, however, Eddie is to make a long trip across the border in Mexico looking over a large number of plants. For the uninitiate I will mention that this is not a botanical expedition.

Matt Brush came to Boston last week to address the Boston Chamber of Commerce. Freddy Boyd entertained a party of men from the Class at lunch and Matt entertained them and the rest of a large and enthusiastic assembly for three-quarters of an hour afterward. It was mighty good stuff and Matt delivered it with a vigor and ease coupled with a just sense of the dramatic which made the whole thing very impressive. Naturally Boston's traffic problem came in for a considerable discussion but as that is after all only of local interest I refrain from abstracting. One point that he did make, however, in another connection is well worth repeating. Speaking of the wisdom of allowing the workers to share financially in the company which employs them he said that every man with a hundred dollar equity in some reliable corporation was one less recruit for the ranks of anarchy and Bolshevism. Which reminds me of the old, old story of the local miser who listened once to a socialistic tirade on the community of wealth. As many of his neighbors were better endowed with this world's goods than himself he preached this doctrine ad nauseam. Finally one of his fellows becoming weary of this accosted him one day as follows: "Well, Joel, I've been listening to this talk of yours about the division of wealth and I'm some interested. You mean to say that if you had two horses you'd give me one?" "Sure," said the cautious possessor of but one horse. "Well," said the other, "if you had two cows would you give me one?" Joel, conscious of the strength of his limitation, again briskly replied in the affirmative. Once more the friend returned to the matter. "If you had two pigs would you give me one?" Joel paused a moment and then replied, "Well you see I got two pigs."

I was not able to get around after the meeting to see Matt, as I belong to that small and well-nigh extinct group, the laboring class. As I left the room, however, I saw the blond locks of our little Edward Seaver bobbing cheerily along a couple of feet above the level of the crowd and making a bee line for the guest of the occasion. Eddie brought me home from one of our many class reunions in the Wianno district, and I shall never forget with what skill he piloted his car through the thronged thoroughfares of Onset, Middleboro, and Brockton at four o'clock in the morning. To one used to a quiet existence the pace of the night life of these South Shore sinks of iniquity is appalling.

There is the possibility that Fred Sexton may be here at some time during the summer. As you all know, Fred is the head of the technical education of the province of Nova Scotia with headquarters in Halifax. Which reminds me that three years from this spring we hold our Thirtieth Reunion, being then one full generation out of college. When I speak of a full generation I beg that no one will think that I am speaking reminiscently or suggestively, only conventionally. Committees are now being formed to plan for this season of gaiety and mirth, and it is none too soon for us to attempt to overcome the inertia of those who have not yet participated in one of these gatherings.

By the way, at the luncheon already re-ferred to above I saw Charlie Whittemore for the first time in many years. Charlie, like myself, has rounded out in lines of beauty but his singing voice is raised as pleasingly and melodiously with the choir of the Apollo Club as in the days long since when it was a large factor in a Technology Glee Club as was a Glee Club. Matt Brush sang in that organization, too, while Freddy Boyd led the Banjo Club, and anyone else who would join him for sport or diversion. Whittemore and his partners are engaged in what plans to be the largest building in the world. It will go up in a part of that land where in the old days the Park Square Station used to stand. When that was torn down and Technology released her property in the neighborhood, a real estate trust took the whole thing over and today it contains some of the finest buildings in Boston's uptown downtown. This building of Whittemore's is a colossal thing and will house a project for unifying the industries of New England. One floor of the many will be given over to exhibition purposes and it is planned to lay this out like a map of New England. The most popular part undoubtedly will be that simulating northern Vermont and New Hampshire with a touch of the Maine boundary. A group of Mack Sennett's bathing beauties will lend - I can't say chaste elegance - distinction to the Sound. It is an enormous project, but I understand that the plans are well under way.

Before long I shall be sending out a little light literature to the Class. Peruse it well when it arrives. There will be food in it for thought and thoughts in it for sustenance, And so to bed. - ALLAN W. Rowe, Secretary, 4 Newbury Street, Boston, Mass. V. F. HOLMES, Assistant Secretary, 131 State Street,

Boston, Mass.

Roger Greeley, who is chairman of the Massachusetts Federation of Planning Boards, had a signed editorial

in a recent issue of the Boston Traveler on the need of protecting our motor highways from being disfigured with billboards and hot dog stands and superfluous filling stations. More power to him. - Harold Pope is now located at 13730 Dexter Boulevard, Detroit. - Les Millar was in Boston for a couple of days in March on a hurried business trip. Les expects to be East for a longer stay in June when his daughter, Elizabeth, graduates from Mount Holyoke College. Miss Mary Ballard, we understand, will graduate in the same class.

Brigham Allen (Carlton B. Allen, Jr.), who is president of the junior class at Tech-

nology, has made an unusual record in basketball. On the Technology five he has been the highest scoring man, and has tied with the captain of Northeastern as the highest scoring college player in eastern Massachusetts. Young Allen has scored 135 points for his team during the season. - FREDERICK H. HUNTER, Secretary, Box 11, West Roxbury, Mass. Burton G. PHILBRICK, Assistant Secretary, 246 Stuart Street, Boston, Mass.

It is with great regret that the Secretary is obliged to make the statement that there are no Class Notes for this issue.

No news concerning classmates has been received, and as the Secretary does not wish to appear in the rôle of fabricator, he is unable to present anything for entertainment.

The only thing which occurs to him which may be of interest is the further preliminary announcement of the annual reunion of the Class to be held at East Bay Lodge on June 22, 23, and 24. Full information regarding the Reunion will be sent out in a very short time.

The Secretary wishes to extend to his classmates his very best wishes for an enjoyable summer and a very pleasant vacation period. HENRY W. STEVENS, Secretary, 12 Garrison Street, Chestnut Hill, Mass. AMASA M. HOLCOMBE, Assistant Secretary, 3305 18th Street, N. W., Washington, D. C.

Bob Luce, Lieutenant Commander, U. S. Coast and Geodetic Survey, reported as follows to the Alumni Office: "For the past four or five years I have been

on sea duty in command of the U.S.S. Pioneer of the U. S. Coast and Geodetic Survey, engaged in hydrographic surveys of the Pacific Coast. On January 11, I was detached from that duty, and, after a very pleasant motor trip across continent from San Francisco to this place, arrived in Boston a week or so ago, where I am now in charge of the New England Division of this service, with headquarters in Boston at 92 State Street.

Ed Coffin discovered the following in his Newburyport paper: "Francis J. Chesterman, son of Mr. and Mrs. F. W. Chesterman of Broad Street, Vice-President and General Manager of the Bell Telephone Company at Pittsburgh, Penna., has been appointed by President T. P. Gaylord of the Pittsburgh Chamber of Commerce as one of the committee to aid the Senate in probing the great coal strike in that city. The local man is very prominent in municipal affairs in the Smoky

We are pleased to credit The Review Office with the following news item: "In the Engineering and Mining Journal issue of February 25, 1928, on page 353, is a statement that B. L. Johnson, who has been in charge of the foreign statistics section of the Bureau of Mines, has been transferred to the non-metals division in order to make a study of phosphates and nitrates." We had thought that Bert was in the U. S. Geological Survey writing annual bulletins on tin. - Will Houskeeper is reported to have given up his association with the Bell Telephone Laboratories in New York. - A note from Mildred Wheeler Tompson says that she is still assistant manager of the scientific farm in

Seekonk, Mass. This town is unique not only for its name but also for its physical dimensions, 2 x 10 (miles). No wonder we couldn't find the farm last fall. — Bill Motter and his bride went to Chile in February for Bill's annual inspection of the Chile Copper Company's mines. — Harry Donald is living at Mann Hill, Scituate. He is working on a restricted development of his ancestral acres. — George Fuller has moved to Omaha, Neb., still with the United States Bureau of Public Roads.

How many heard Oscar Merrill, Executive Secretary of the Federal Power Commission, speaking over the Red Network on March 13? Voters' Service presented three speakers that night, the subject being "Power and the Public." Oscar led off with "The Background of the Problem."

Walter Bent, Director and Manager of Works, Kodak Limited, Wealdstone, Middlesex, England, has a word to add: "You mention the Ciné-Kodak abroad. Of course, such new innovations do not spread so rapidly on this side of the water as they do in America, but although they are introduced more slowly, many times this very slowness results in a more sound and more stable business when it is once established. This, of course, is not always a disadvantage. Since I last heard from you, you may have seen that our company has acquired the majority interest in the manufacturing business of Pathé in France, and has acquired the Pathé Works at Vincennes, which is a very large and excellently equipped French factory. Our company has also purchased the Glanz Film factory at Copenick, one of the most modern and up-to-date German factories. This is being changed over to Kodak methods and we are already manufacturing there to some extent. These two new factories, together with our Hungarian Works, give Kodak four European works which are technically directed from England. I would be very pleased to have any of the Class look me up if they take a trip to Europe." Though he puts it modestly, we conclude that Walter is running the four European plants which must keep him on the move.

Contributions to the Class Dormitory Fund have been discouragingly few and the total is far from what would be expected of our Class. Here is a concrete way of showing our loyalty to the Institute. Look over the Committee's letter again and also the message from the Alumni Association and see whether you cannot help put '05 in the position financially where it has always been in other things. You know where that is.—Roswell Davis, Secretary, Wes Station, Middletown, Conn. S. T. Strickland, Assistant Secretary, 20 Newbury Street, Boston, Mass.

On February 20 the following letter was received from H. R. Patterson, II: "You may be interested to know of my change of location after twelve years in Joliet, Ill. I am still with the American Steel and Wire Company, having been with this company since about a year after graduation. I have been promoted from superintendent of Rockdale Works, Joliet, Ill., to superintendent of Rankin-Braddock Works, Braddock, Penna. The Rankin and Braddock Works,

which are about a mile apart, were combined under one superintendent about two years ago. I am finding plenty to do in getting acquainted with my new job and new surroundings, but expect to enjoy it here very much. When I sell my house in Joliet, get one here and get my family, consisting of a wife and three husky boys, moved here, I'll be all set for a while anyway. I shall be glad to see any of the 'o6 men if they are in this neck of the woods."

Thanks are due to Percy Tillson for a clipping from the Philadelphia Public Ledger of March 18, which will be of particular interest to Course VI men: "The Public Ledger presents today in the rotogravure section a photograph of the first of a series of oil paintings depicting the activities of the United States Navy during the World War. This is the first publication of this picture. The painting by Lieutenant Commander Burnell Poole, U. S. N. R., shows the Sixth Battle Squadron of the grand fleet, headed by the flagship, U. S. S. New York, steaming out of the Firth of Forth into the North Sea on patrol duty. The artist was commissioned by the du Pont Company to make the paintings. The one of the Sixth Squadron will be presented to the Naval Academy at Annapolis after being exhibited in Washington. Mr. Poole went to Europe in 1918 to make sketches with the United States fleet and to take photographs in anticipation of the painting of the canvases. It was the desire of the Government to preserve in oils the operations of America's battleships, but Congress failed to appropriate money for the actual

painting.
"The du Pont Company then commis-N. J., to paint the pictures for the Naval Historical Foundation. They will become part of the permanent exhibit at the Naval Academy. Mr. Poole has thousands of photographs and sketches and the picture reproduced today is based upon actual photographs and sketches so that it is historically accurate. In the distance is shown the British battle cruiser H. M. S. Lion at anchor, and the famous Firth of Forth bridge. The time is January, 1918. The other American battleships are the U.S.S. Texas, Wyoming, Florida and Delaware. Sailors are seen rigging out the paravane on all the vessels to protect them from mines and the U. S. S. New York is also rigging out an observation balloon. The flags are in the British secret code and call for a speed of eighteen knots and the ships' bearing. At that time the ships were burning Welsh coal which gave off a thin and dusty smoke. This has been noted and painted. . . ."

Two booklets have been received from the author, Charlie Kasson. They are entitled, "Speculation on Human Life," and "Speculation on Electricity, Matter and Energy." The Secretary has not read these sufficiently to attempt to review them. From the portions read to date, one is impressed by the originality, boldness, and breadth of the thoughts advanced by the author.

In connection with the midwinter convention of the American Institute of Electrical Engineers held in New York on February 16, a joint session was conducted with the British Institution of Electrical Engineers meeting in London. The two meetings were connected by

means of the New York-London telephone circuit so that the proceedings at each point were heard by both audiences. As part of the joint meeting in New York, Otto Blackwell presented a paper covering some of the technical features of the New York-London circuit, including the transatlantic radio telephone which was the means employed for connecting the two sessions.

The Secretary dislikes to keep reminding his readers of the passing years but when he realizes that the children of class members are arriving at the college age, it must be admitted that time is fleeting. Stewart Coey was in Boston around the middle of March. He states that one of his sons is now a freshman at Amherst. It is presumed that other members of the Class have children who are in college but this is the first case that has come to the Secretary's attention. We shall be particularly interested to learn who is the first one of the 'o6 children to enter the Institute and we guarantee to give any information on this subject the widest publicity in the Class Notes. - J. W. Kidder, Secretary, 8 Harrison Avenue, Boston, Mass. Edward B. Rowe, Assistant Secretary, 11 Cushing Road, Wellesley, Mass.

Another one of our classmates has passed away. W. Pearce Rayner died on February 29 from the effects of a serious operation performed on February 24 which at the time was thought to be successful. This was particularly shocking news coming to the Secretary from Parker Dodge, who knew Rayner well in Washington, because it was only about February 15 that a letter was received from Rayner himself, sending thanks for the photographs taken at the Class Reunion last June. You who attended this Reunion will remember how delighted Rayner was with the affair, as he had not been present at any preceding class gathering since 1907. Rayner received his degree in Mechanical Engineering in 1907 and until 1913 was manager of the Philadelphia Branch of the Kelly-Springfield Motor Truck Company. From 1913 until the time of his death he was Washington district manager of the White Company, manufacturers of motor trucks and busses. He was widely known in Washington on account of his interest in local affairs, having organized and served as commander of the Motor Corps, consisting of 350 men with automobiles, as a police auxiliary in Washington during the war; also having been chairman of the Traffic Committee of the Washington Automotive Trade Association, and chairman for four years of the Committee on Traffic and Public Safety of the Washington Board of Trade. He is survived by his widow and three children: the oldest, a girl of fifteen years in high school; another daughter of twelve; and a boy of seven. The Secretary has written a note of sympathy in behalf of the Class to Mrs. Rayner. In case any of you want to write her, the address is 110 Leland Street, Chevy Chase, Md.

Parker Dodge, under date of March 11, sent in the following typical letter: "Some weeks ago I saw our old friend Sam Marx. He looks and seems to be just the same, only more so, and greets you with the same old smile. It happened something like this: I was going up the 'Boul Mich' and whom should I

see but Sir Walter Humphreys himself. I started to flag him, but something (perhaps it was those old drill excuses) made me hesitate a fraction of a second, and it was too late. This made me think of Technology and I recalled that old Sam was not far away. I shot skyward in a twentieth century elevator, walked across an equally uninteresting hall and stepped through a standardized door into another world. Quiet! Nice woodwork! Real furniture! Lots of bright watercolors that Sam made in Morocco; and behind a most unbusinesslike desk, Sam himself. We tried to reach John Frank, but that was John's hungry day and he had already gone to lunch. Now if you go to see Sam and he takes you to the Tip Top Inn, be sure and try a clam juice cocktail. All I can say is, those Lake Michigan clams have a way with them. Between the story about the hippopotamus, his keeper, and the old maid, and another switchman's classic (members of the Class can get full particulars by sending a stamped self-addressed envelope to 6 Michigan Boulevard, Chicago) Sam told me about his last trip to Europe.

One thing, or rather two things he told me have racked my brains ever since, and I tell you about them in the hope that mechanical integration can reconcile them. He said first that Europe is being ruined by Americanization, which ought to be stopped; and second that the English are out of date and decadent because they won't adopt modern ways. They ride around in rotten little taxis, and refuse to patronize nice Yellows sent there from Chicago, for example. I should have asked Sam about this, but we got to reminiscing about an embarrassed old maid he claims to have seen in the Boston Museum of Fine Arts, some twenty odd years ago, and the fate of Europe slipped my mind. It was a pleasant time, and I am sorry you had to take it second hand. I am sure we would all be the gainers if we took the time to look each other up whenever we get the chance. From now on, I intend to be a regular walking delegate."

Edbert C. Wilson, I, has been a member of the firm of Green and Wilson, civil engineers, ever since 1907, located at 74 Main Street, Waterville, Maine. He has two daughters, seventeen and fifteen years old. — William S. Wilson is director of research and plant development of the Merrimac Chemical Company at Woburn. He has no children, and he and his wife live at 36 Albans Street, Roslindale. - Erle F. Whitney is another man who has stuck with the same company since graduation. He is now manager of the General Electric Company at Portland, Ore., and has held various offices in technical societies in his section of the country. Erle has three boys, rang-

ing in age from five to two.

Willis G. Waldo is construction engineer and secretary of the Tennessee River Improvement Association of Chattanooga, having his office at 205 Third Street, S. E., Washington, D. C. This has been his professional connection since 1916. He has had a great deal to do with the famous United States nitrate plants at Muscle Shoals, having written the brief and supervised the engineering work which is said to have been an important factor in locating the plants at this spot. He conducted the campaign for the government survey of Tennessee River and its tributaries now being finished by United States engineers at a cost of \$1,200,000. This required seven years

time. Naturally, many addresses and newspaper and magazine articles have been prepared by Waldo in his work. He is married but

Frank C. Stockwell, VI, has been teaching at the Stevens Institute of Technology at Hoboken, N. J., since 1907. He is now professor of electrical engineering and head of the department. He also is associate educational director for the New York Edison Company. The residence address for Frank, his wife, and his fifteen-year-old daughter is 520 West 124th Street, New York. - BRYANT NICHOLS, Secretary, 2 Rowe Street, Auburndale, Mass. HAROLD S. WONSON, Assistant Secretary, W. H. McElwain Company, Manchester, N. H.

The third bi-monthly dinner of the 1927-28 season was held on Tuesday, March 20, at

Walker Memorial. The following were present: Cary, Beede, Alton Cook, Walter Poor, Arthur Poor, Newhall, Fred Cole, Steve Lyon, Art Merrill, Bill Booth, Tim Collins, Ferrandi, Appleton, Mayo, Myron Davis, Sewall, and Carter. We were particularly glad to have Walter Poor and Arthur Poor with us, as we believe it is the first bi-monthly dinner they have attended since leaving the Institute. After the dinner, Beede gave a very interesting entertainment showing moving pictures of rescue work in connection with the sinking of the S-4. He also showed winter carnival pictures in Canada, salmon fishing pictures taken in New Brunswick, and several interesting reels taken in southern California.

We were very sorry to learn of the death of Eliot Weinz on February 9 at his home in Narberth, Penna. He had been in business in Philadelphia for some time past, as you know. - New addresses have been received for: Harry H. Bentley, James H. Davidson, S. C. Lyon, S. F. Hatch, Lock Davidson, John T. Ellsworth, Walter Barcus, Thomas W. Orr, Francis McGuigan, Jr., Professor Henry Blackburn, and William E. Barton.

In the last Review we mentioned the coming Twentieth Reunion being held between June 15 and 18 inclusive, at West Bay Inn, Osterville, Mass., in a particularly delightful section of Cape Cod. The West Bay Inn is located on the Wianno golf course and within a few minutes ride of Hyannis, the metropolis of the Cape. The accommodations are excellent, and we are planning golf, tennis, sailing, swimming, and a typical Cape Cod clambake. The response that we have already had is particularly flattering, and indicates a record turnout. All of you fellows who have not been before should make a supreme effort to come this time. You are sure to find a large number whom you know and plenty to do when you get there. Why not get in touch with your particular friends and arrange to have them come with you, especially you fellows living at some distance from Boston who cannot be reached by the committee except through letters or printed circulars. Put the date down on your calendar now and do not forget it -June 15 to 18 of this year. You will all of you receive more complete details later.

Don't forget the last bi-monthly dinner of the 1927-28 season will be held at Walker Memorial, Tuesday, May 15, at 6:30. — H. L. CARTER, Secretary, 185 Franklin Street, Boston, Mass.

The Secretary has just received a note from Mrs. Arthur C. Besselievre stating that her husband died last

December of pneumonia following an attack of influenza. She also very kindly enclosed a clipping from the Marine Journal, a copy of which follows: "Professor Arthur C. Besselievre, Dean of the Faculty of Webb Institute of Naval Architecture, died December 28, 1927, at his home on the Institute grounds. Professor Besselievre had been Dean of the Faculty and Professor of Naval Architecture since September, 1923. He became actively associated with shipbuilding while a student at Bulkley High School in New London, Conn. Between the school years he worked as a ship fitter's helper in the Eastern Shipbuilding Company yard. He was determined to become a naval architect in spite of the dissuading influence of his father, who at that time was superintendent of the yard in which his

son worked.
"The elder Besselievre had done well in shipbuilding, but he had other ambitions for his son. The latter persevered, however, and eventually worked his way through the Massachusetts Institute of Technology, graduating in 1909. During the following year he worked for the United States Government in the Scientific Department at the offices of the New York Shipbuilding Corporation at Camden, N. J. For about four months of 1910 he was employed by the Lake Torpedo Boat Corporation at Bridgeport, Conn. His work there was of a highly confidential nature concerning construction that company was doing for the Government. Besselievre was then called back to Camden, where he began working for the New York Shipbuilding Corporation as an assistant to Mr. Riggs. He was prominent in the work of the yard and took an especially active part in the launchings and trial trips of naval vessels constructed at that time. It was then that he began an intensive study of the methods and means of launching vessels. He was particularly interested in that phase of shipbuilding, and eventually became an authority on such matters.

"During the War he was loaned by the New York Shipbuilding Corporation for special work with the Pennsylvania Shipbuilding Company. He soon became established as naval architect for the latter company. Being then but thirty years of age, he was the youngest man in this country holding the position of Naval Architect. While at the Pennsylvania Shipbuilding Company, he designed the ways for the first side launching on the Delaware River. He later became associated with Mr. Henry Lyscholm as a firm of consulting naval architects in Philadelphia. After the death of Mr. Lyscholm in 1920, Besselievre went to Washington, D. C., with Mr. James Swan on appraisal work of Shipping Board vessels.
"In 1923 he was called to take the position

of Dean of the Faculty and Professor of Naval Architecture at Webb Institute of Naval Architecture in New York City. It was in this dual capacity that he found himself in a work for which he was most admirably suited. In a brief space of four and one-half years, Professor Besselievre added much to an already distinguished career; and his associates feel that he had only begun what he ultimately would have contributed to the profession of shipbuilding."

H. C. Bender is this year serving as President of the Spokane Section of the American Society of Civil Engineers. — From New York comes the news that Tom Desmond has been chosen as the uninstructed delegate from New York City to the Republican National Convention in Kansas City, and that he has also been re-elected as President of the New York Young Republican Club. — CHARLES R. MAIN, Secretary, 201 Devonshire Street, Boston, Mass. PAUL M. WISWALL, Assistant Secretary, Franklin Baker Building, Hoboken, N. J. MAURICE R. SCHARFF, Assistant Secretary, Farmers Bank Building, Pittsburgh, Penna.

No notes have been received by The Review Editors from the Secretary of this Class for inclusion in the May issue. The Secretary received the usual notification that copy was due, accompanied by such news as had been compiled in The Review office. Members of the Class having news or inquiries should address them to DUDLEY CLAPP, Secretary, 16 Martin Street, Cambridge, Mass.

By the time these notes get into print we will have had our first spring gathering of the 1911 clan at Walker Memorial. This means we will have had a good meal served by Pancho Bridges, the famous Mexican maître d'hôtel who presides over the culinary destinies of Walker, followed by bowling downstairs where Dennie probably will have a high string of fifty-three and Emmons Whitcomb fifty-four.

When coming through Kansas City on my winter trip to the South and Middle West, I was greeted at the station by an enthusiastic half dozen Alumni, among them being our good friend, A. T. Cushing, I, who is with the Henrici-Lowry Engineering Company. I was very sorry that Thede Polhemus was out of the city at the time so I did not have a chance to renew acquaintance with him.

I had a call not long ago from Irving Pray, V, who, except for his service in the war, has been mostly engaged in the sugar industry not only in its chemical phases but in the actual construction of plant and equipment. Due to recurrent bad effects as a result of the amount of gas he swallowed in the World War front line action of which he saw much in France, it is practically essential for him now to have outdoor work, so he is endeavoring to get the best possible opening with some construction or road-building company. He still makes Natick, Mass., his home address, but at the present time is in the South on some construction work.

It was indeed a pleasure recently to learn that Jack Devlin, III, has been made engineering assistant to the President of Manning, Maxwell and Moore, Inc., New York. We are certainly proud of you, Jack, and hope you will continue to succeed.

Whitford Drake, XIII-A, is now general manager of the Acoustic Department of Electrical Research Products, Inc., a subsidiary of the Western Electric Company. Drake has been associated with the Western Electric Company since 1924, becoming in his second year assistant operating superintendent of the manufacturing plant then maintained by the

company in Jersey City. Later he was transferred to the General Commercial Department at New York, and subsequently joined the forces of Electrical Research Products, Inc., in which concern he now has charge of such matters as the exploitation of Western Electric Sound Projector systems and Western Electric developments in the phonograph field.

Bill Orchard, XI, President of Wallace and Tiernan Products, Inc., at Belleville, N. J., dropped in to see me in early March, but Mrs. Denison and I were visiting that week-end at Atlantic City and Philadelphia perfecting preliminary plans for the forthcoming 1928 Reunion of the Technology Clubs Associated, so I missed Bill, much to my subsequent regret. By the way, Classmates, you are missing a good bet if you pass up this Atlantic City Alumni get-together over the last week-end in May, for Atlantic City certainly has wonderful charms and already considerable interest. has been manifested by Alumni east of the Mississippi in this party on May 25 and 26. Let's have a lot of '11 men there and have a little get-together of our own in connection with the general celebration. It is not a formal convention at all, but just a glorious week-end of pleasure.

Harry Tisdale, V, writes that he is still happy in his work with the American Dyewood Company at Schenectady, and he said he was very sorry that he missed me when I recently visited the alumni group in that city. Curiously enough, he was in Utica two nights previous and learned from the morning paper the next day that I had dined with and addressed the Alumni there on the evening when he was in town. In concluding his letter, written in mid-March, he said, "It won't be long now—I bought a fishing license this week and today took some dust off the clubs and gave them a coat of varnish. You know why."

Ted Van Tassel, X, writes that he is now at General Leather Company, Newark, N. J., getting out his new special sole leather on a larger scale. He added that "prospects look fine." Best of luck, Ted, old boy, and we will certainly miss you at the 1911 meeting in early April.

Bill Warner, I, has left Nowata and is now at Seminole, Okla., in the Seminole oil field—"the biggest one yet," he adds. He expressed regret at not being able to get up to Kansas City where I was recently and where on my last visit we were able to get in some nice golf rounds.

Bill Whitney, III, who has been for a time with Dunn and McCarthy, shoe manufacturers at Auburn, N. Y., has now returned to his former love, the Brunswick Kroeschell Company. Bill was formerly manager of the Marine Department of this company at its plant in New Brunswick, N. J., but is now located at the executive offices at 136 Liberty Street, New York.

Bunny Wilson, XIV, general superintendent of the Aluminum Company of America, says that his work keeps him very busy and adds that it "does not seem to result in my path crossing that of any other 'II men." It has always been a pleasure to see him when in Pittsburgh, and I hope I shall have many future occasions to meet classmates in various sections of the country when I take up my new line of work after my retirement as Alumni Secretary on June 30.

In closing, I want to call attention again to the M. I. T. party at Atlantic City on May 25 and 26, and leave with you an additional urge to send me in a pledge for the Alumni Dormitory Fund. It has been terribly disheartening to see the apparent lack of interest among a majority of the members of the Class in this worthwhile enterprise. Please snap out of it!

— ORVILLE B. DENISON, Secretary, Room 3-207, M. I. T., Cambridge, Mass. John A. Herlihy, Assistant Secretary, 588 Riverside Avenue, Medford, Mass.

No space for introductory blah, secretarial jokes, or other wheezy dope in this issue. We gotta get right down to cases! Too much live stuff on hand to waste any time.

Here's one hot off the griddle from George M. Sprowls, VI, now a big tire and rubber man in Akron, Ohio: "I have just received a letter from Robert Wiseman in regard to keeping alive class spirit of '12. Technology means more to me the longer I have been out than it did immediately after graduation. I had occasion to be in Boston recently and I called on some of the professors at Technology and it brought me back again to the time when I was at school. Although they are now housed in entirely different buildings from those back on Boylston Street, I saw the same Technology spirit as we used to have in those old buildings.

"Mr. Wiseman has asked that I give you some ideas as to just what I have been doing since leaving Technology. Except for slightly over a year spent in the army during the World War, I have been with the Goodyear Tire and Rubber Company since graduation. For some time I was working on design and experimental work, but shortly after the war I spent over a year traveling in Europe. I covered practically every country in Europe and Northern Africa. At present I am manager of the Highway Transportation Department of the company, which is directly con-nected with bus and taxi fleets from a tire point of view. I find it to be very interesting work and also one that is constantly increasing in its scope. I surely would be interested in attending a reunion on our twentieth anniversary." You'll be given every opportunity to attend such a reunion, George. More of this anon!

Albert L. Pashek, VI, will now step front and center, and speak his little piece. "Received your class note some weeks ago," says Albert in the terse, if not rhetorical style so characteristic of engineers, "but forgot all about it until George Sprowls wrote me from Akron. Yes, I think we ought to have a reunion, and will do my best to be there although I can't promise. I have just recently connected with the Technical Department of the Vacuum Oil Company Cleveland office, and so I can't tell just where I will be, and that is about all the news I have to offer at this time." In our great, big-hearted way we forgive Albert L. Pashek for having forgotten all about our note for some weeks. He has a lot of company in the Amalgamated Association of Class Note Forgetters. If he will only do as Sprowls did, and write some other classmates to wake them up, we'll award him one of our special secretarial medals.

One of Course VI's most noted shrinking

violets has been persuaded to emerge for a moment from his secluded nook in the depths of the Lynn marshes. He is none other than our own James A. Cook, sometimes known as Doc because he looks so much like an Iroquois medicine man. Let us hear in his own well chosen words what he thinks about himself: "In accordance with the request of Wiseman," says Doc, alias, Jim, alias Cook, "I am sending you promptly news which will probably surprise you. Since graduating in 1912 from the course in Electrical Engineering, I have followed the vocation for which I studied. This is remarkable, and I think distinguishes me from the other members of the Class. I have three major accomplishments to my credit - two daughters and one son. The last will be in the Class of 1948 at Technology. I am identified with the Lynn Gas and Electric Company as superintendent of the Electric Department. You will at once recognize this company from the national prominence which it has recently obtained in contracting for the supply of electric energy to the Boston, Revere Beach, and Lynn Railroad, which connects the Hub of the Universe with the Shoe City. In addition, I serve the Town of Swampscott as inspector of wires, and have had my salary for this office doubled during the past year. I have been thanked twice! I am greatly pleased with the class items which you folks wrote up in the last Review. The pleasure was exhilarated by contrast with 1911 which instead of occupying a page as usual, occupied a short paragraph." Jim, we warned you long ago that our chance would come some fine day, to get even for certain things. And this looks like the time you exposed your chin in just the spot we could reach it best. So, if any of the above be libel, make the most of it...

Robert J. Wiseman, VI, is, at this writing, on another Pacific coast trip for the Okonite Company of Passaic, N. J. A souvenir post card from him while in San Diego casually states that he expects "to fly back to Los

Angeles."

Seems as though Course VI has had about enough publicity for one issue. Let's shake up the hat and draw something else. Here's one! What is it? Course what? Oh, X. Yes, we'd almost forgotten there was such a Course. But before we reveal the man's name, let us go back a few years. Quite a few years! About two years before any of us entered Technology, one cold winter day, when the snow lay deep and crusted on the landscape south of Boston, a little red-headed boy who thought he knew something about the gentle art of skiing, undertook to teach it to a big blond boy who modestly admitted he knew nothing about it. The first trip down the hill ended in a whirl of arms and legs and wooden sticks, which ought to have convinced anyone that skiing is a foolish pastime. But the blond boy came of sturdy Scandinavian ancestry, and firmly maintained that his forbears were skiing down the mountainsides of Sweden while the red-headed boy's ancestors were still swinging by their tails from trees of the Emerald Isle. To make a long story short, the blond boy mastered the skiis before the sun sank behind the snow-clad hills, and he has been mastering life's more difficult problems ever since. He mastered some difficult chemical and production problems in connection with paper making in the wilds of Canada.

During the World War he achieved the rank of Major in the Chemical Warfare Service, went to France where he served as assistant chief of gas defense until he was sent back to the United States to direct the construction of a mustard gas plant at Edgewood Arsenal. The day the war ended he happened to be in New York City, and achieved the notable distinction of staying sober long enough to meet your Assistant Secretary amid the wildest confusion on Fifth Avenue, and then adjourned to the Technology Club where the party really started.

So much for the earlier history of Hugo H. Hanson, X. Since the date when O. D. suits and leather puttees were relegated to the cedar chests and moth balls, Hugo has been most of the time in Bangor, Maine, as technical director of the Eastern Manufacturing Company, makers of pulp and paper products. He also served for a time as Assistant Professor of Chemical Engineering in Technology's Course X-A. On January 1, Hugo Hanson went with W. C. Hamilton and Sons, Miquon, Philadelphia, as general manager, where he has a still bigger job ahead, and, he believes, exceptional opportunities for the future in the manufacture of paper products. Hugo is the proud possessor of three future co-eds for Technology. Aside from the fact that Hugo has a little extra drag with us through years of close personal friendship in high school and at the Institute, we are glad to give a little extra space to a representative of Course X. Course VI men have been getting nearly all the breaks, heretofore.

Another Course X man has been heard from. We take it as a compliment that Hamilton Merrill, X, thinks we might be a likely prospect and sends us a four page folder offering an opportunity to invest in the seven per cent First Preferred Cumulative Stock of the Chemical and Dye Corporation, of which he is Vice-President and General Manager. The Editors of this sheet won't let us boost Merrill's stock, but we know he'll be glad to give you all the details if you write him care of the Chemical and Dye Corporation, Springfield, N. J.

Eight of the New York bunch of poker players gathered recently for a little evening session. That is, about four of them were poker players more or less, and the other four were merely there to contribute the necessary cash to keep the game interesting. Without telling you how they classified, the eight were as follows: Cooper, Bird, Rhodes, Walter O'Brien, E. M. Mason, Priest, Ralph

Ferry, and McGrath.

There is going to be a meeting of the Technology Clubs Associated in Atlantic City in May. You will find out all about it in The Review for last issue, and more about it in this issue. This would be a good time to collect some of the '12 men.—Frederick J. Shepard, Jr., Secretary, 125 Walnut Street, Watertown, Mass. D. J. McGrath, Assistant Secretary, McGraw-Hill Company, 10th Avenue and 36th Street, New York, N. Y.

We, as Lindbergh says, arrived at Walker Memorial on March 12 at 6:43 P.M. to find the following members or pseudo-members of the Class of 1913 assembled: Ray White, Gilbert Pardey, Bill Ready (always), Manuel Font, Phil Burt, Jerry

Fallon, Dean Fales (Sheik of the Faculty), Joe MacKinnon (our jovial Registrar), Jim Russell, Al Townsend, Charlie Thompson, Bob Portal, Stan Parker, Jack Homer, Buttzy Bryant, and Phil Capen. We supped bountifully; then proceeded to a hearty discussion. It was decided to postpone our Reunion from the week of June 17 to June 22, 23, and 24. This postponement was due to the advisability of accepting the proposal of the management of the Chatham Bars Inn, at Chatham, Mass., which would enable us to sojourn at the above-mentioned hostelry only and upon the dates mentioned. It was the consensus of opinion of those assembled that we would receive more for our money there than at any other place on the Cape. Thus we are guided by that decision. Do these dates suit you? The pittance for the three days of unqualified rest, enjoyment, and jollification totals \$35.00 per person, which, in the opinion of your committee, seems trivial compared to the renewal of your youth which you will

Bob Portal has arranged to transport the illustrious sojourners on Friday, June 22, from Boston to Chatham and return, for one smacker and three quarters. Pneumatic tires and free reading matter, free gas, air, and water. A very reasonable arrangement, to say nothing of the relief of driving your own Lizzie. The Chatham Bars Inn affords a wonderful cuisine, ostermoor mattresses, airy rooms, awe-inspiring scenery, bathing, fishing, boating, tennis, golf, African golf, baseball, or just plain gab-fest. Come one, come all! You can't afford to miss this Fifteenth Reunion of the Class of 1913 of the Massachusetts Institute of Technology.

Most of our illustrious classmates are clamoring for class news. Well! Why not sit down and let your thoughts register from the business end of a fountain pen and let your ever-receptive Class Secretaries know what you are doing or have accomplished.

The following scandal was overheard at the last monthly dinner. Dean Fales, the Procurer of the Faculty Extraordinary (at present a member of all classes from 1913 to 1917) is still teaching school at Technology, and, assisted by the Registrar, is setting an example of decorum not only for the male student body but also the fair co-eds. Stan Parker, before our monthly report, successfully gave Jack Homer a lesson in the idiosyncrasies of chess. Stan challenges any or all comers for the chess championship of the Class. - Bill Ready is still (just like Bill) with the National Company, Inc., Malden, Mass., making radio and engineering apparatus. - Benjamin White is located at II Beacon Street, Boston, doing business under the name of White Construction Company (New York and Boston papers please copy). - G. R. Pardey is still with the same company but is moving to New York on April 1. He has a daughter, Jean Louise, born October 23, 1927, and going strong. We trust that Mrs. Purdy will accept our congratulations and hope that both mother and daughter are enjoying the same health as the daddy. -Buttzy Bryant is still going strong. Toothless or not, he reports he'll be able to eat by June. So take my advice and sign up early for the Reunion for after six months of hunger, Buttzy will need your assistance.

Let's go! Will see you at Chatham, June 22.

Have you paid your dues?—HARRY D. PECK, Secretary, 1123 Hospital Trust Building, Providence, R. I. G. P. Capen, Assistant Secretary, 25 Beaumont Street, Canton, Mass.

Another year! It hardly seems possible that this is the last regular issue of the year. The next issue, which, incidentally, does not appear until July, is the graduation and reunion issue. Reunion! Just another year until our grand fifteen year event. We have been out long enough to have earned a few days' holiday and by starting to save now, we can probably accumulate funds for the moderate expense involved. Present plans call for a location not too far from either New York or Boston, and perhaps even at Saybrook again. This Reunion will be stag, as was the last one.

Buck Dorrance has sent in a letter he received, describing a Health Exhibit to be held in Chicago next October. The interesting point to Fourteeners is that the letter, while coming from the office of the American Public Health Association, is signed by none other than our own Homer N. Calver, as Executive Secretary. - Another '14 man who is interested in health work is Tom Duffield. Tom gave a lecture at Technology on March 9, and this is what The Tech said about him: "Ventilation and its effect on the health of school children will be the subject of a lecture by Thomas J. Duffield, '14, Executive Secretary of the New York Commission on Ventilation, at the Institute at four o'clock on Friday afternoon. The lecture is the first given under the auspices of Delta Omega, the honorary society of the public health profession, and is sponsored by the Technology chapter of the society in the Department of Biology and Public Health.

"Mr. Duffield will speak on 'The Present Status of Ventilation,' a subject in which he has carried on long research for the New York Commission on Ventilation. Besides his work for this commission, he has also served as a health consultant to the League of Nations. As a result of his studies in schools Mr. Duffield has found a very close relation between proper ventilation and the health of the child. School officials, physicians and hospital officials have been invited to the lecture, which is open to the public."

When your Secretary received his March copy of the folder published by the Legion Post of which he is a member, he was indeed proud to note the splendid testimonial to Paul H. Taylor for distinguished service rendered particularly in connection with welfare work. All Legionnaires of the Class will feel a double pride in having Taylor both as a classmate and a comrade. The testimonial reads as follows: "Paul Taylor, gentleman, Legionnaire. The Crosscup Pishon Post with its great background of distinguished service can well be proud of numbering you among its outstanding members. You stand for the finer things that identify real manhood. You are known to us and loved by us for what you do, for like all great men, you regard silence as a virtue. You are a fearless, tireless worker — a Legionnaire with character and vision — a man on whom we can depend — a man who seeks neither glory nor recognition for work done in memory of your less fortunate comrades-in-arms. You

dedicate your efforts to God and Country; you do your duty and do it well. We who have been privileged to know you, have for you a deep sense of respect and loyalty. We admire you and look to you as a leader and a gentleman who gives his time to worthwhile efforts—a comrade who lives up to the highest ideals of the Crosscup Pishon Post."

B. P. Crittenden, who was formerly with the Beacon Oil Company at Boston, is now in Shreveport, La., as manager of the Refining Department of the Louisiana Oil Refinery. — A recent letter from H. T. Bent tells that he is still in Newport News, Va., as assistant superintendent of the Newport News Shipbuilding and Dry Dock Company. Bent writes that, while the past few years have been rather slender ones for the shipbuilding industry, prospects are looking better all the time. — H. B. Richmond, Secretary, 100 Gray Street, Arlington, Mass. G. K. Perley, Assistant Secretary, 21 Vista Way, Port Washington, Long Island, N. Y.

The well known business depression has evidently hit the class notes industry. Perhaps in the emergency and need for more volume we ought to call a conference or re-divide the territories or send out some specialty men or even reduce prices to secure new business. There ought to be a law to help class secretaries or even a S. P. C. C. S. (figure that out). At any rate, we must do something to liven up the column for the remaining issue of The Review. Even if you will just write in where you are or how your golf game is, now that the winter fishing is over, it will help. Shortly after our New York dinner, unfortunately I left New York for a rather extensive trip through the Middle West. Jerry Coldwell and I are making Columbus look like a stay-athome. At any rate, I didn't have the much desired chance to see again some of the men who were there. I talked with Ralph Hart who is going to come across generously for the Dormitory Fund, and spent a very pleasant evening with an enjoyable dinner at Jim Tobey's place in Rye, N. Y. (That's a town, not a drink, you know.) - The Buffalo Evening News of February 24 carried a long account of the death of Mr. C. P. Hugo Schoellkopf, one of Buffalo's leading and prominent citizens. He was the father of A. H. Schoellkopf of our Class whom many of you will remember. We are sorry for your loss, Schoellkopf, and join in sending you the sympathy of the Class. - I have sent Jerry Coldwell the mailing list of the Class, which I hope he uses so he can see some of the men and tell us something about them - and himself. I was recently in Oshkosh but failed to find the bronze plate showing the place where Gabe took his first one.

We simply must do something definitely and quickly in our quota for the Alumni Dormitory Fund. I could name a dozen or twenty fellows who mean to send in substantial checks and have told me personally that they would. Please don't hesitate any longer. Send in any amount. The smallest is equally as acceptable. Don't let it be said that 1915 failed to meet this request when other classes all around us have done so. In years to come we should be ashamed not to see a class memorial up there, merely because

we are negligent. I know the loyal intent is in your hearts. Just stop procrastinating and send in your check. We have about \$2,500 towards our quota of \$10,000, and this was subscribed by about thirty men. So you see there are yet many to be heard from. Let's hear loud and long from you, like a roar of thunder — \$10,000 worth of it. — AZEL W. MACK, Secretary, 377 Marlboro Street, Boston, Mass.

No notes have been received by The Review Editors from the Secretaries of this Class for inclusion in the May issue. The Secretary received the usual notification that copy was due, accompanied by such news as had been compiled in The Review Office. Members of the Class having news or inquiries should address them to Russell H. White, Secretary, Kardex-Rand Sales Corp., 118 Federal Street, Boston, Mass., or to Charles W. Loomis, Assistant Secretary, 7338 Woodward Avenue, Detroit, Mich.

Many of the men who saw service in France during the War came through without a scratch but were seriously affected by that experience without realizing it themselves. Dick McLaughlin was one of these. He could not seem to adjust himself and regain his full health. A long and severe illness about a year ago left him in poor physical condition and when he was stricken with pneumonia in New York on March 3 he did not have the vitality to stand the battle and died at the Roosevelt Hotel in New York on March 7. He was buried from St. Cecelia's Church in Boston on Saturday, March 10. Leon McGrady was one of the bearers. We all knew Dick at the Institute. Those of us who have attended reunions and other class parties had learned to know him as a loyal member of 1917 and as a true friend, generous to a fault. We shall miss him.

This is contributor's number, but because of objections registered by classmates jealous of the space allotted to Bill Eddy and Professor Lobdell, two of the contributions must be inserted anonymously. Professor Locke has earned a merit card for the regularity and quality of his additions, and we are more than pleased to credit him with them. The first anonymous letter says: "I have just had a note from Ken Lane, chief plant engineer of the Wright Aëronautical Corporation, hastily written as he was running to catch the Berengaria en route to Europe. No further details of interest to Review readers."

The second contribution follows: "You may be interested to know for the next Class Notes that recently Bob DeMerritt dropped in and that I also saw Dave Brown in the lobby of the Repertory Theatre. Dave was a Course IV man and is now located in Lawrence. Bob is still in the Army as a First Lieutenant of Coast Artillery and has been stationed in Portland, Maine, with the National Guard. He expects soon to be transferred down to Virginia and eventually to go to the Philippines. Probably you know Frank Conaty left recently for a tour in Hawaii or the Philippines (he was not certain which it would be at the time I saw him). Also I am enclosing several pages taken from the

Furniture Reporter for 1927-28. Doubtless you will recall the picture reproduced, although it does, in a way, resemble a bar-keeper out of a job."

Would that editorial policy permitted reproductions of the three important illustrations - photographs of Neal Tourtellotte, Donald Bradley, and an order confirmation blank! Their secret of success is new and novel: "They increase linoleum sales two-fold by boosting Service - Selling flooring instead of merely linoleum is largely responsible for the remarkable success of Tourtellotte-Bradley, Inc., Seattle, which holds a leading place in the flooring contracting field in the Pacific Northwest. By stressing methods of laying linoleum this enterprising four-year-old concern, reputed to sell on the average of two carloads of linoleum each month, is enabled to interest consumers in better grades of floor covering. 'I will relate just one experience how we sold one of our large flooring contracts,' said Neal E. Tourtellotte, who has charge of the floor covering end of the business." No more advertising space can be spared this month, but a copy of Mr. Tourtellotte's experience as cited will be mailed free with each renewal subscription to The Review.

Memorandum for The Review from Pro-fessor C. E. Locke: "I wonder if you appreciated that one of our former students, Lewis W. Douglas of the Class of 1917 in Course III, is a member of the House of Representatives at Washington representing the State of Arizona."—"I have selected the following paragraphs from a recent letter from R. T. Lyons, '17, which I thought might be of some use to you: 'I have not kept you very well informed of my activities, but might say that I went with Skelly Oil Company in 1924, since which time I have been geologist, district manager, and am now in charge of the Land Department at the company's headquarters in Tulsa. This work has proved to be extremely interesting since it combines the technical work with the business end. Week before last I had lunch with Phil Rowe in New York. Bill Gray comes through here occasionally, being with the Walworth Company, which sells various types of fittings for the oil field work. Generally, however, Technology men are rather scarce out here, or else each one of us is so busy in this oil business as to not give us very much contact with each other.'

Now get ready for a shock. Mr. and Mrs. William F. Donovan of Fairhaven, have announced the engagement of their daughter, Miss Lois Donovan, to Leon Lempert McGrady of Philadelphia. - RAYMOND S. STEVENS, Secretary, 30 Charles River Road,

Cambridge, Mass.

Again I start in to write with very little in front of me, but I will see what I can do. Reunion news follows later

in the column.

On stationery of the Nickel Plate Road comes a letter from our old friend and classmate, Bill Turner, saying, "I have been a constant reader of The Review, and of the 1918 Class Notes for a long time - almost ten years now, isn't it? - but I have to confess that my contributions to them haven't been up to par. I believe I did send something in a couple of years ago covering a hunting

trip in the Rockies while living in Denver, and voiced a special inquiry as to the whereabouts, activities, and so on of one Charlie Watt, III. Not getting any information on Chink, I gave up, but your recent requests for letters makes me feel I should send a little something, as I thoroughly enjoy reading what the other fellows write. I wonder if you couldn't make some of the others see the light in that direction. I am sure there are many 1918 men who take The Review, and if they do, undoubtedly they read the Class Notes. If they don't get busy pretty soon, however, the '17 and '19 Notes will run together." (Bill, you are not at the bottom of the list as far as contributors are concerned.)

"I don't think there are many '18 men connected with the railroads. At least I don't happen to know of many except Bill Wier, who is assistant to the President of the Denver and Rio Grande Western Railroad. I've been railroading ever since the war. The first seven years of it I spent with the Texas and Pacific Railroad at their various traffic offices around the country, leaving that company only a year ago while general agent at Denver, to accept this similar position with the Nickel Plate Road in Akron. There are quite a number of Technology men in the Akron district, but I have only one '18 man, George Sackett, with the Goodyear Tire and Rubber Company here. George is married and happens to live in the same apartment building that we do. The Turner family consists of a wife and son - one each.

"Recently there was a dinner of the combined Technology Clubs of Akron and Cleveland at the Sleepy Hollow Country Club, located about midway between the two cities. There were about sixty in attendance, but again the '18 men were scarce - George Sackett and I being the only survivors of that species. Where are they all? We listened to Dennie's customary entertaining and instructive talk on the progress at the Institute and also to a masterful speech - and it was a speech too, in every sense of the word by Dr. Arnstein of the Goodyear-Zeppelin Company, outlining every possible phase of the lighter-than-air ships. I think dissertation more nearly describes the Doctor's handling of this subject. He must be a remarkable man in that field.

"I don't think I know anything more that might be of general interest. Akron, of course, is known principally as the rubber tire center of the universe. Seems to me that is stretching a point, as I don't think we know yet whether they run automobiles on some of the other planets or not, but being in the transportation business, I do know that no tires have been exported from here to Mars yet. But be that as it may, Akron produces every article known to the rubber industry, and incidentally, on a damp, foggy day, this fact is evident while you are still some distance from the town. Recognized, you understand, by the same sense a traveler knows he is approaching Chicago and its stock yards."

Bill's letter ends here, and we surely do thank him for his kind words. I second his appeal that some of the fellows send in some letters to me so that the '17 and '19 Notes will not run together.

Now as to the Reunion. Shorty Carr has accepted the position of general chairman for this occasion, and he and his committee are hard at work on the particulars now. If, by the time you see these notes in The Review, you haven't received notification of some kind from the Committee, and you are interested, just drop me a line with your correct address, and I will be glad to see that you hear from them. We are sending out the notices to all whose addresses we now have. I can definitely say this is not to be a stag party. Also I can say that it is to be down on the Rhode Island or Connecticut coast as I have hinted before. The exact spot will be given you on your literature. Make your plans now for a trip in June, probably around the second or third week-end. There were about seventy of the '17 Class back last year, and we certainly must beat that number. Get in line for the Ten Year Reunion.

One more appeal for news before I close. Every letter helps the good work along. The more letters we get, the more news we can have, and the larger the space will be between the Notes of '17 and '19. Let's all help out. -GRETCHEN A. PALMER, Secretary, 148 State Street, Boston, Mass.

With the call for Class Notes ringing in my ears, let me begin with a letter from Seifert who has already shown a keen interest in the Tenth Reunion. "Let me help you pass some of the time of day by hammering out a few lines concerning the points of view, coincident with living in the Middle West. I have been located here since April, 1925, and with the exception of Russell Smith, I have not met any other '19 men but Cashin. The latter is now very much interested in the activities of the Westboyd Chemical Company, Inc., of 808 North Clark Street, Chicago. Last Tuesday while I was visiting with him in his office we had the current issue of The Review before us, and we commenced a discussion of the '19 news contained therein. At the conclusion of this 'meeting' I found myself duly elected Secretary and commissioned to impart to you our views concerning the Reunion of next year. Now then, we favor some more interesting location than Boston or New York. If your answer to this is just no, then we wish to ask the following: Don't you Easterners like to travel? Why wouldn't it be a good idea to pick on some city like Buffalo, Detroit, Cleveland, Pittsburgh, or else as bad as Chicago? And another thing, why not make it a mixed affair?

"Having that off my chest I will say for myself that I have resigned my position with and withdrawn my interest in Derick Laboratories, Inc., and now am playing a rôle of landed proprietor on an estate in this town of Chesterton which is about fifty miles from Chicago. Now what do you know?" Three cheers for Seifert and Smith. Now let's hear what the rest of the Class think about the Reunion. Where, why, who, and how. The more suggestions the better, and surely no one can complain who doesn't voice his

A class luncheon for men around Boston was held in February at Patten's Restaurant to talk over plans for the Reunion. This group, made up of men who have shown an active interest in class affairs and class gatherings, is of the opinion that a nation wide committee should be selected with a separate

committee in New York, Boston and other cities where several '19 men are located. The opinion of this gathering was that the Reunion should be held on the Cape or on the North Shore. Bills for class dues have been held up awaiting more details from the committee selected to act for Boston.

Early in February your Secretary attended a dinner for all Class Secretaries at the Engineers Club to find out what each Class was doing to raise their quota for the new dormitories at Technology, and to offer suggestions for assisting the different Secretaries. Our quota is about \$2,000. Russell Palmer has consented to act as chairman of a committee to endeavor to raise the amount among our Class. Let's help him out by sending him a check made out to H. S. Ford, Bursar. Palmer's address is 93 Central Street, Somerville, Mass. — Paul F. Swasey, Secretary, 99 Washington Street, East Milton, Mass.

I had the great pleasure of lunching with Al Burke the other day, and we spent a very enjoyable hour reminiscing, although Al was not able to give me much food for The Review notes. Al is now with the Sharples Separator Company with headquarters at Philadelphia, and is in the vicinity of Boston for a few weeks. He will, I am afraid, be away from these parts before these notes come to light. He tells me he has seen Buz Burroughs in New York and that Bud Coffin has left Philadelphia and gone to Syracuse. His address there is 247 West Fayette Street.

During the past month I have seen a lot of '19 men and '21 men, but no '20 men. I don't know where you fellows keep yourselves, but you certainly stay away from your Secretary

with exceeding carefulness.

Bob Bradley has moved to Hartford, Conn. I don't know why. I used to see him around town once in a while. — H. O. Davidson now resides at Holland Patent, N. Y., having left Lewiston, Penna. — Dolly Gray is now located in New Orleans. Dolly has been down South for quite a time now, and we hope that he and his bouncing family find the climate attractive. — HAROLD BUGBEE, Secretary, 9 Chandler Road, West Medford, Mass.

Dastardly Plot Uncovered! (Caption in 172 point, red.) Friendly Negotiations Avert Clash Between Classes (Second deck.) Somewhere in Industry, March 26, 1928 - Just as Class Notes for this issue of The Review poured into the office of the magazine this morning, a statement was given to the waiting world denouncing the efforts of The Review Editors to promote strife between 1921 and 1922 by their propaganda disseminated in the March issue. A telepathic conference of the Sec and Asec of 1921 and the Gensec of 1922 announced that reports of gathering war clouds were grossly exaggerated. Supporting this statement, it was said that the Treaty of 1919, which followed 1921's Field Day victory of that date, had been extended for an indefinitely long period. A reporter who gained access to the ethereal conference chamber at the close of the meeting found the delegates in high spirits, having just agreed to print all the

news whether fit or otherwise, while in a far corner, where it had fallen from the table, lay an open *Youth's Companion* from which the Victor pup was playfully tearing a Standard Oil (Ind.) full page display. — Adv.

News is still scarce and things have come to a sorry pass when it is necessary to resort to such as the above, in direct disobedience to the rules governing Class Notes, in order to fill our allotted space. However, several letters have come in, and, in addition, the Man with the False Whiskers and the Magnifying Glass has discovered a veritable mine of rumors, facts and fancies about many who have not answered our personal appeals for news. The Secretaries refuse to accept any responsibility for errors in the Man's deductive methods or the alkali in his remarks—to be safe from his prying eyes, write in the truth at once.

Our Old Faithful in time of need rushes to the fore with a letter written at Port Sewall, Fla. R. C. Dolle, XV, manager of the Lakeview Ponds Company, Coleraine Avenue, Mount Airy, Cincinnati, Ohio, says, "I received your postal which does remind me that it has been a long time since I've written you or Ray. I have been back to the Institute several times since 1921, and I saw Professor Schell once. You ask about the boys I used to bum with. Of the Phi Kappas, I now see Jazz Green, Joe Hennessy, Al Glassett, and Pete Lavedan, all Class of '20, more than my own '21 men. Of our Class, Jim Downey, IX-B, was with the U.S. Coast and Geodetic Survey and spent a year in Alaska. He then went with the Bethlehem Steel Company, and at present he is with an efficiency engineer and is located in Atlanta, Ga. Last year he married Mildred Knowland of Boston. His address is Pershing Point Apartments, Atlanta.

"George Dandrow, IX-B, lives with Al Glassett in New York. He is with the Johns-Manville Company. I haven't seen Turk Murphy, XV, since leaving school; he has a responsible job and has made quite a success with the Union Carbide Company. He is married and lives in New York, but he travels quite a lot. I understand Andy Crowley, XV, is in Milwaukee. I know that he was married last fall to a Milwaukee girl. I can't tell you anything about J. W. Gartland, X, or A. L. Kerrigan, VI, but I see Herb Reinhard, XV, whenever I get back to Boston. He is with his father as an Income Tax man. (Oh, Herb, how can you be so heartless? - Asec.) Hal Hallinan, XV, surprised me some time ago by an early morning visit at the McAlpin in New York. He is managing a rather large plastering contractor's business, is married and has two children. I also saw Jimmy McDonald, XV, on one of my trips to Boston. He is with the St. Louis Electric Light and Power Company, and has been ever since leaving Technology.

"In Cincinnati, of course, I see my old friend, Ollie Bardes, XV, quite often. He is married, as his many friends no doubt know, but it is only during the past year that he has become a proud daddy; his son is just a little over one year old. His father will not have to worry about the Bardes Foundry as long as

Ollie is on the job.

"I don't know whether you knew that I have had a rather tough time with arthritis during the past four years. The trouble

started shortly after leaving Technology, but became acute in 1923, and for quite a time I had a rather bleak outlook, being able to work only with difficulty, unable to stand up straight, and with absolutely no chest expansion. After doing everything I could and finally getting some relief from my winters in Florida and the treatments prescribed by a Boston doctor, I am now much better. I can again drive a car comfortably, dance, play golf once in a while, and do anything not too strenuous.

"As for business, I am still one of the few '21 men grouped among the farmers. We have an eighty-acre farm in Cincinnati on which we have grown goldfish and aquatic plants for thirty-five years. I have been continuing the business which is, I admit, a far cry from Technology courses — but I am still young. I'll be glad to hear from any of our old friends who happen to be in Cinci next summer, and who would like to see the farm and the farmer." Many thanks, Bob, and the best of wishes from all of us for continued good health in the future.

We have tried to locate P. E. Guckes, X, ever since moving to this section. He has been found — and how! Witness the following from the Philadelphia *Public Ledger* of March 4: "Mr. and Mrs. Philip Exton Guckes, of Devon, Penna., are being congratulated upon the birth of a daughter, Mary Edith Guckes,

on February 2." Here's how, Phil.

And in the Evening Ledger of February 27 was the following news of A. D. Harvey, III: "Mr. and Mrs. Pierre Jay of New York, who are now in Berlin, where Mr. Jay is the American member of the Transfer Committee under the Dawes plan, have announced the engagement of their daughter, Miss Anna Maricka Jay, and Mr. Alexander Duer Harvey, son of Mr. and Mrs. Daniel Carroll Harvey of Stamford, Conn. No date has been set for the wedding." Our contemporary writer of the Phosphorus Clan, is now assistant sales manager of the Nash Engineering Company, at South Norwalk, Conn. Many

hearty congratulations, Dan.

What is so rare as an unsolicited letter from a '21 man? But they really do happen, and here's one from William L. Knoepke, VI, who says, in part: "A sense of guilt comes over me every time I read the 1921 Class Notes in The Review because I feel that I have been negligent in not keeping in touch with my Class Secretaries. Shortly after leaving the Western Electric Company, I spent a little over a year in the Purchasing Department of the Electric Bond and Share Company. Early in 1924 I went into business for myself in the electric appliance game, but lack of capital proved too much of a handicap, so I came into my present job in July, 1925. I am now in the factory sales department of the Ward Motor Vehicle Company of Mount Vernon, N. Y. In March, 1925, to be exact, I joined the ranks of the married men. My wife was formerly Marjorie Wilson. I do not recall whether you met her when she visited Boston, or possibly at one of the Technology affairs in New York. We have a little daughter who had her first birthday just a few days ago. My home address is 143 Gramatan Avenue, Mount Vernon, N. Y. I would be glad to hear from any of the gang who can find time to scribble a letter." For a letter like that, Bill, we take back every-

thing we ever said about your playing the saxophone! If there were only more like you, this Secretary would find his business a

pleasure. Thanks.

Our offer of a free lunch to all those who will come over to Camden to see us still holds. During the last month we had two visitors, but in each case they came at the wrong time of the day to partake of a meal. J. G. Kaufman, X, insulation engineer for L. Sonneborn Sons, Inc., 114 Fifth Avenue, New York, dropped in on his way to Chicago, where he was planning to look up some more '21 men. That's the spirit. The other caller was C. H. Reed of 1920. Chuck, who looks not a whit different from the days of yore when he bossed Dorm Dances and ran Corporation XV, is now Treasurer of the Forbes Varnish Company, 3800 West 143 Street, Cleveland, Ohio

J. L. Entwistle, VI, breaks into the celebrity field via the March 9 issue of The Tech as follows: "Mr. James L. Entwistle of the Electrical Engineering Department has invented a machine which will reel up cable during the process of manufacture and subject the cable to a high tension test at the same time, it has recently been announced. This invention, which Mr. Entwistle has sold to the General Electric Company, will eliminate a hazard from the industry, as the previous method of testing wire was dangerous and frequently resulted in accidents of a serious nature. In his description of the automatic reeler, Mr. Entwistle says that 'it is intended for cable from one-half to three and one-half inches in diameter, for reels from twenty-four to seventy-two feet long weighing up to three tons. The high tension tests on the insulation are designed for any voltage not exceeding 45,000.' Representatives of wire plants from all sections of the country have become interested in this invention. Recently the machine was demonstrated before many experts in the wire testing field.'

H. F. Stose, XIV, has left the Hood Rubber Company and has recently become a member of the Engineering and Research Department of the Victor Talking Machine Company, Camden, N. J.—Stiessen was married a year ago and he and his very charming wife, who comes from the South (R. W. Smith please take notice!) have just taken a house in the rather Victorian town of Moorestown, N. J., where there are three other Technology men, including the manager of the Engineering and Research Department, the assistant manager, and the engineer of standards of the

department.

At the risk of being put in the hoosegow for electioneering, we wish to express the hope that all good '21 men voted for G. A. Chutter, VI-A, whose name was proposed as one of the members-at-large of the Alumni Council. George is automatic switching equipment engineer for the General Electric Company, where he can be reached at Building 23, Schenectady, N. Y. He is also President of the M. I. T. Club of Eastern New York.

We apologize to G. E. Shoemaker, VI, for not being able to connect for a luncheon date which has been pending for a long time. George has returned from Geneva and is now in the Commercial Department of the Philadelphia Electric Company, 10th and Chestnut Streets, Philadelphia, Penna.—J. T.

Peirce, XV, is account executive with N. W. Ayer and Son, Philadelphia. John is married and has a boy. He lives at 225 West Tulpehocken Street, Germantown, Penna.

At this stage the Man with the False Whiskers and the Magnifying Glass has rushed in bearing a number of interesting exhibits, some of them substantiated by thumb prints and Bertillon measurements but few of them free from the vivid imagination of the sleuth and the writer. For example, here's a note to the effect that Josh D. Crosby, X, believed to be with the Hood Rubber Company in Watertown, is known to have an Oldsmobile cabriolet in which he has been seen sporting quite a number of the unfair sex around. Then there is the rumor that J. M. Sherman, X, who is in industrial engineering with the Simplex Wire and Cable Company of Cambridge is engaged to a Boston girl.

A very wild rumor follows which would have it that a certain Lt. H. O. Bixby, II, was presumably caught around Washington flying with Col. Lindbergh. The Man is not sure whether it was Harold or a couple of other fellows. C. D. Greene, X, is reported at the Point Breeze plant of the Atlantic Refining Company at Philadelphia. - Say, Clark, how did you land around here without letting us know about it? - Another of the Chemicals reported in the vicinity is O. F. Neitzke, Bureau of Mines Experiment Station, New Brunswick, N. J. And Oscar is further accused of being engaged. J. D. Bowman, VI, has left the Philadelphia Rapid Transit Company and was last seen driving a tank - no, we mean a street car - or tapping wheels, or maybe running the whole works for the International Railways of Buffalo, N. Y. We hope this gets John "het up" enough to write about it. Garvin Bawden, XV, is thought to have an office in the Public Ledger Building, Philadelphia, but has not yet been successfully tracked to his lair.

Here, in response to a mysterious call about Hatch or Hatheway or Kurth or Loesch, the Man has darted off, taking his little black notebook with him. We are forced to stop, therefore, but we still want more news. Now that the days are longer, spring cleaning is over, and golf isn't so hot, why not come across with a real letter and make that July issue — the last of this volume — a real

newsy one. Do it now!

At the Power Show in Chicago in February, your Secretary met T. O. M. Davidson, II, who has been in Milwaukee, Wis., doing engineering work for the Bucyrus Erie Company since leaving the Institute. Chub lives at 593 Cass Street, Milwaukee, and is still an eligible bachelor. He said Elmer W. Davis, II, is located in Indianapolis, Ind., and has an establishment doing the Parker Rust Proof process. Chub received word of the arrival of a son at Jake's home on February 10. From him came the word that Frank Coldwell, II, is married and a plant engineer for a paper mill in Northern Wisconsin.

We regret to learn from the Boston Herald that Curtiss T. Gardner, I, lost his wife early in March. They were married in June, 1923, and had an infant daughter. — From Carl A. Ellis, I, 502 South Elm Street, Champaign, Ill., comes the following word: "I was married last June in Waltham, Mass., to Miss Anna R. Stewart, Simmons, '27, also of

Waltham. We spent the summer and fall in Cape Breton, Nova Scotia, where I was working for the Pitometer Company of New York. Now I am with the Public Works Engineering Corporation of 40 Exchange Place, New York, which is a branch of the Federal Water Service Corporation."

Another good letter was received from Arthur Turner, I, of 231 Birch Avenue, Mount Lebanon, Pittsburgh. "I haven't seen much news of '21 men from Pittsburgh in the notes in The Review for some time. Art Skilling, I, has been threatening to write an item or two to either you or C. A. C. for a long time, but like all the rest of us has never gotten around to it, I guess. I was married last October to a Miss Madelyn Lowe of Omaha, Nebr., and believe it or not, I have a real Methodist Bishop for a father-in-law! A month or so ago I met Hartwell Fleming, VI, who is with the Duquesne Light Company here in town, who casually informed me that he had moved since I last saw him. Merely moving impressed me but little. It was so insignificant compared with my marrying in the same period, whereupon he confessed he was married last October also. Did he marry incidental to his moving?

"Art Skilling, I, and Don Robbins, II, both live just a couple of miles away. Art is still with Morris Knowles, Inc., is married, and has a baby girl now well over a year old. We've been able to get together quite frequently for bridge and for our wives to check our stories. Robbins is with the Bessemer Gas Engine Company, is married to a former Brookline girl, and is way beyond the rest of us with two children, a boy of two and a half,

and a girl of one and a half.

"Last week we had a very enjoyable evening of bridge which almost resembled a reunion — for we had as our guests, the Skillings, Robbins, Flemings, and the F. B. Kittredges. Kittredge, I, lives in Bellevue, another suburb of Pittsburgh, is married, and has one child. As for myself, I am still with the Harbison Walker Refractories Company."

On January 21, Miss Marion Vincent Park and George H. Atkinson, X, were married in Stoneham, Mass. They are to live in Tocopilla, Chile, where George has been for a time.

Your Secretary has moved, although he is still in Whiting, Ind. The new address is 225 Cleveland Avenue, and all '21 men are welcome at our home whenever they come to Chicago or its vicinity. The telephone is Whiting 931 JX.—R. A. St. LAURENT, Secretary, 225 Cleveland Avenue, Whiting, Ind. CAROLE A. CLARKE, Assistant Secretary, Victor Talking Machine Company, Camden, N. J.

Someone has fed the Class of 1921 several grains of strychnine, and brought it back to life. Well, perhaps not as much as that, but a mirror held to its lips does film slightly again. We have put the calla lilies purchased to observe the demise back in the ice-box again, and we hope they'll keep. Meanwhile the patient seems to have reached the kicking and struggling stage, for on pages 302 and 303 of the March Review 1922 and its Secretary come in for a sudden assault. If you were attending a nice, quiet, friendly funeral and the Late Elk all of a

sudden reached out and soaked one of the chief mourners right on the button, you'd have some idea of how we feel. Not hurt, not

angry, so much as just surprised.

It is our old friends Carole Clarke and Duggie Jackson, Jr., who deal us this blow. Apparently a colored boy on a mule arrived in Louisville a short time ago bearing Duggie a copy of The Technology Review for December, 1927. Therein he noted our comment on the marriage of Walter Julian Hamburger, '22, and forthwith he set himself to the task of composing a letter to Assistant Secretary Clarke denouncing our classification of Walter as a member of '22. He put a magnificent Burkian peroration to it and, wiping dry the quill and dusting the papyrus with bronze, dispatched a courier to Camden, N. J., the letter being carried in an oil-silk pouch strapped to his back. After incredible hardships and several narrow escapes from the Hessians the courier arrived, delivered his message at the Victor Talking Machine Company, where Carole does his talking, and dropped dead. The letter was published in March.

It would be undignified for us to attempt a rebuttal in these columns. We do think, however, that Dug and Carole are a bit ungrateful. Something had to be done about 1921 last year and we were trying to do it by gathering a few of its assets together and acting as a receiver for the property. And this is our thanks! Ah well, how sharper than a serpent's child is an ungrateful tooth. . . . And when you do leave the task of recording 1921 activities to the Asec (his very title is a vile infringement on letters patent held by 1922 since graduation) what comes of it? Chaos, that's what. Duggie and Cac undertake to deal in an authoritative manner with Dave Woodbury, whom they classify as '21 despite the plain insistance of the Register of Former Students that he took his S.B. with '22, and patronizingly assert that Dave is still on the editorial staff of the General Electric Review, when, as any alert Secretary ought to know, Dave, last fall, received a well deserved promotion to the News Bureau of General Electric, and no longer has anything to do with the General Electric Review. Go ahead, ingrates, revile us some more.

But dignity, dignity.

We'd like to go on now, and show '21 up still further by publishing a complete Sunday Supplement full of '22 gleanings, but unfortunately our artillery has not backed us up, and there remains nothing to do save turn over the field to the Messrs. Sallaway and Pratt. Not that that's so tough, either.—Eric F. Hodgins, General Secretary, 8 Arlington Street, Boston, Mass.

COURSE II

Before proceeding further with the gruesome details of the previously acknowledged communications we must make note of the fact that several more of the wandering sheep have come into the fold. Because of these there is more joy in the Secretary's office than news from the one just sheep (the one we refer to as "just" is Tommy Thompson). To complete our roster and renew our offer of detailed information concerning any one of our esteemed coursemates, we list the following: J. Gordon Campbell, Bob Chase, Walter Chick, Charlie Comey, Ken Cunningham, Johnnie Doesen, Stewie Dimmick, Hugh Doyle, Harry Follensbee, W. A. Gardiner, Dick Kasch, Bill Kitts, Andy LaPenta, Charlie Lermond, Web Maschall, Pete Perkins, Werner Schoop, Neal Sheppard, Gabriel Smith, Art Wasserman, and Tommy West.

The post card subterfuge was successful to the extent that it brought to light about one hundred Course II men who might otherwise be hiding their glory and accomplishments under a bushel. We should give precedence to the letters we have received, since they are to be considered a heavier investment in

postage.

Johnnie Plimpton blossoms forth with a three pager that has more real dope than any three columns of Secretaries' Notes. He held a reception last fall at the Power Show and got us the low down on many of the delinquents. Al Redway from the Farrell Foundry and Machine Company, Ansonia, Conn.; Dyno Spaulding from Proctor and Gamble; Art Wasserman with F. Grev Libbey Company, located at 50 Trumbull Street, Hartford, Conn.; Harry Follensbee, Marine Department of the Diamond Power Specialty Company, 12 East 41st Street, New York; Johnnie Molinar of Pratt and Whitney Company, New York; Ham Hammond at the exhibit of Builders Iron Foundry Company, Providence, R. I.; Stoney Stone representing Krebs Pigment and Chemical Company, Wilmington, Del. - all these boys are on Johnnie's calling list. We thank you, old boy, and if there are any charges we will expect to hear further from the parties concerned.

Plimpton has some news of his own. His friends (that includes everybody) can find him during working periods at 230 South Clark Street, Chicago, at the offices of the Pennsylvania Crusher Company, for whom he is western manager. More power to you, big boy! He spends his domestic hours at 1437 Thome Avenue, Chicago, and is the proud father of two boys. Speaking of the quality of the Penn Crushers, John brings out the point that they rely vehemently on the copious advice of Professor Haven as consulting engineer to insure an abundant factor of safety in their machines.

Fry Speer squandered two cents to keep his dope out of the eye of the public. Fry's complaint as to the ambiguousness of our cards is overruled. They bring results even if the truth does hurt. Fry is with Vacuum Oil Company at 61 Broadway, New York, as a lubrication engineer of no mean repute and ability. He's living at 11 Woodland Avenue, Tarrytown, N. Y., and can still boast (with a few more of us) that he is still single. He gets the dope from Larry Washington at the University of Minnesota and Gus Hemeon. This endeth the more replete reports on the coursemates that have been garnered by our scouts. The self-confessing ones are to follow in order, and will be handled as the duties of the Secretary permit. - John E. Sallaway, Secretary, 1860 Broadway, New York, N. Y.

Course VI

It is my misfortune sometimes to encounter Eric after one of his devastating games of Badminton. A misfortune because if these notes do not appear Eric might counter with one of his well misdirected shots. If he does, though, we would be prone to mention a few

truths about his particular game. A few notes from "the" Reunion survive, so here goes.

Among those who sent regrets to the Reunion at Falmouth was Ev Farmer, regretting that he was living a few thousand miles away at 1821 Westmoreland Boulevard, Los Angeles. Ev is married and is in the real estate business. We missed not seeing him but his promise to be present at the Tenth is consoling.

Reed Dallye expected to make the grade to Falmouth, but was prevented presumably at the "last moment by extenuating circumstances." Reed confessed to being engaged and when not engaged by his fiancée he may be found at 80 Park Place, Newark, N. J., the office of the Public Service Production Company where he has been since resigning from the telephone company. He often sees Les Price, Howard Spooner, Jim Nesmith, and Jegger Dean.

We were sorry to learn that Ike Bellezza could not come to the Reunion because of illness. He is now at the West Lynn plant of the General Electric Company.— The lumber business at Unadilla, N. Y., required the undivided attention of Walter Hunt last spring. Walter's domestic duties are also

increasing.

Evidence of Ev Villet's assistance in ferreting New York City news is indicated by the discovery of Newton B. Schott. He was affiliated with our Class only during the S.A.T.C. days but we appreciate his interest in wishing us the best reunion. After leaving the S.A.T.C., he entered Columbia, received the degree of A.B. in 1923, and LL.B. in 1925. He is associated with Bigham, Englar and Jones of 64 Wall Street, New York, as attorney and counsellor at law. Newton's home address is Church Street, Rockaway, N. J. - James Picker Inc., of 686 Lexington Avenue, New York, were fortunate in obtaining the services of Carl Braestrup. He also gives some time to the Bellevue and Post Graduate Hospital as a physicist. If you cannot find him at either of the above addresses, try his home at 1046 Madison Avenue, New York. He is still single, so you had better call by phone first. His stationery is suggestive of x-ray practice.

Some notes at hand have the address of Jack Teeter, formerly doctor of the hows and whys of such things as synchronous generators, at 140 Broadway, New York, the office of the Guaranty Trust Company. Somewhat loosely associated with the notes is the notation, "about to be married." Jack intended to come to the Reunion but did not. With such evidence the notes will henceforth be

closely associated until denied.

William C. Gillman is in charge of illumination at the Central Hudson Gas and Electric Company. — Sammy Wyeth is selling for Leeds and Northrup. — Providence and vicinity is being conquered telephonically by Park Appel while Van Van Pelt formerly also of the telephone family has returned to the "great white mill" to tell the younger neophytes about the relationship existing between the Tu and entropy. He went to the Institute shortly after the first term when he was made an instructor in charge of classes in the Electrical Communications Laboratory. — FEARING PRATT, Secretary, 120 Main Street, Hingham, Mass.

So far the long distance record for those who expect to come back to the Reunion in June belongs to George Barnes. His

questionnaire came back with a Nicaragua stamp on it. There wasn't much information about George, but he signed himself hydraulic engineer, and his present location indicates that he has left the University of

Al Hayes wrote a very welcome note on the back of his questionnaire. Al is still teaching in the Johnson High School, North Andover. He is still following athletics as athletic director, and is now sub-master also. That is quite a string of jobs. Al said, "A short time ago, I saw Dutch Lehan, '24, who is teaching in Warwick, R. I., I believe. Occasionally I see Gus Higgins, I, who is doing construction work around Lawrence; also I run into Tom Derby, '21, now and then. He is teaching in Lawrence High. Have you heard from Carl Dippel or Kid Heiss lately?" (See last month's Review, Al.) According to the questionnaire, Al now has a young son, or is it a daughter?

Bill Bray reports that he is still with Proctor and Gamble but has been moved from Cincinnati to take charge of a recently established research laboratory at Paterson, N. I. This laboratory is for field investigation and service work in connection with the sale and use of soap in the numerous textile mills in the eastern part of the country. Bill hopes to

come to the Reunion in June.

There's a letter from Al Parker that should have been in the last Review but somehow got misplaced. It is headed Bar Harbor, Maine, in the midst of a blizzard. Al doesn't say what he is doing at a summer resort in winter, but it seems as though he would just as soon be doing something else in some other place. He is doubtful about attending the Reunion. "You see Fate has ordered that my leisure moments come at this time of year and next summer when you fellows will be making merry, I will be working twenty-six hours a day and wishing I could slow old Father Time up a bit. But such is life!"—G. W. Hall says, "I am still with a governmental research bureau doing research into governmental activities - engineering activities. Our organization is growing and becoming powerful, the only thing we lack is an Eastman for support as the Rochester bureau has. Recently I have undertaken to pep up the local Alumni through being President of the Southwestern Association of the M. I. T."

Harold Gray received a letter from Fred Bastian. Fred is connected with the Bastian Brothers Company of Rochester, N. Y., manufacturers of class emblems, in the capacity of production manager. - Every once in a while I meet someone who has met Art Westcott around town, but never seem to make connections myself. Consequently, I was glad to get a note from Art. He claims he is not married yet and he is in the real estate, insurance and building game around Boston. -Elmer Sanborn severed his connections with the White Motor Company about the first of February, and he is now with the Edes Manufacturing Company in Plymouth, Mass. One thing Elmer misses in Plymouth is the New York A. C., so he is making weekend trips to the Institute for a work-out on the board track.

Martin Burkes is still in the army, now at the Field Artillery School at Fort Sill, Okla. He says there is a fifty-fifty chance that he may be back at the Institute next year taking automotive engineering or that he may be in Hawaii. - From the tone of Charles Bailey's letter, he prefers our good old New England climate to that of Minnesota. He is working with the Minnesota Power and Light Company, and claims the honor of a son, Charles R., Jr. - Seels writes from Chicago. He is in the engineering department of the Chicago Bridge and Iron Works. He says that Abe Kenny is out there in the sales office of the same company. He also reports that McKeen is with the American Bridge Company. -Ed Miller writes in, "I understand now how this proud parent stuff got started! Ann Elizabeth is a prize child!" Watch out, Ed, these other fathers may start a riot.

Well, gang, this is the last Review before the big event. Don't hold your registration back because June will be upon us in another month. Watch the mails for further Reunion announcements. - ROBERT E. HENDRIE, General Secretary, 12 Newton Street, Cambridge, Mass. H. L. BOND, Assistant Secretary, 18 Greenwood Avenue, Hyde Park,

Mass.

COURSE X

E. D. Ries of State College, Penna., saves the day with the only letter in two months. His work at the Institute was all of a graduate nature but he obtained his degree in absentia with 1923. He writes, "I believe I reported my doings last year up until that time. Since then I have been made full professor in charge of chemical engineering and director of the Division of Industrial Research. This latter corresponds to our Research Laboratories of Applied Chemistry at Technology. I have arranged the curriculum here so that it is much like Course X, and I am sending some men to Technology for special graduate work. I hope to build up an M. I. T. faculty in my department. I gain more respect for the bunch in Cambridge every day."

The only other information we have is that Shepard Weinbaum is married, has a child, and is superintendent of a paint manufacturing company in Cambridge. Who will throw us a crumb for the July issue? - H. F. COTTER and D. S. DAVIS, Secretaries, Bureau of Tests, International Paper Company,

Glens Falls, N. Y.

Amongst the miscellaneous news this month there are births, marriages and deaths. Fultz Hooper, XII, died February 15 of scarlet fever. He was working at the time for the Utah-Apex Mining Company at Bingham Canyon, Utah. Our sympathy is extended to his relatives.

Miss Dorothy Hancock was married to William W. Sturdy on February 18 at the Church of the Transfiguration, New York. They are now living at the Broadway Arms, Dobbs Ferry, N. Y. Bill Sturdy makes the seventh in Course XIV to have taken the step, giving that Course a score of 500. Congratulations, Bill! - Congratulations are also in order for John L. Liecty on the birth of a daughter.

E. B. Jennings is still engaged in the work of scouting through the Southwest for promising mines and has found a few things that may have possibilities. He tells Professor Locke that he has covered so much territory in the last ten months that he wore out one automobile entirely and has a good start in that direction on a second one. He still maintains headquarters in Los Angeles where his bride and his mother are living at 309 South Westlake Avenue. - I have just heard that Eddie Lindstrom of my own Course (XIV) has moved to 4 Parkway, Norwood, Mass. If you see this before I write to you, Eddie, drop me a line telling why you are there.

Best of all this month is the following letter from Henry Simonds with news of Pittsburgh and related subjects. Listen: "Some months ago I received a letter from you fishing for a reply. Just where that letter is at this minute I do not know for I have just moved and things are not reassorted in this new location. The '24 bunch that were in Pittsburgh a year ago has split up and there appear to be but four of us left. Tapley has gone up in northern New York State on a hydro-electric job. Bill Ridge got married and moved away. Don Harker did likewise; I think that he went to California. Jack Cannon and his teammate, Johnny Duval, down in Beaver Falls have not reported for some time and neither have they answered the letters that I sent them. Five of us got together in November at the Seventh Avenue Hotel and had dinner. They were, Bob Daily, Sam Helfman, Joe Wickham, George Tapley, and Hank Simonds. Though the cow bell was not present, the bull roared for a couple of hours before the bridge party started.

"I made a trip east in January and arranged to be in Boston for the Alumni Dinner. Nine of the gang sat down at the table assigned to 1924 and three others (if your notes are correct) must have sat elsewhere for they did not put their John Hancocks on my menu. The cowbell was lacking. Bill had better use postage stamps if he cannot spend the carfare next time for our class motto of "No Bull" does not go without the bell. During the course of the evening, I took some notes that I elaborated upon next day and put them on the 4:10 train for Pittsburgh in the care of a Pullman porter. Next morning one of the gang picked them up and Monday night Bob Chandler used most of the jokes told at the Alumni Dinner at the Club meet-

ing in Pittsburgh.

'During the last three months, six Technology men have pulled out of the Byllesby Company here in Pittsburgh: Wilmot, '25, to go into sales work in Chicago; Tapley, '24, as noted above; Scharff, '09, to go into consulting engineering; Chandler, '12, to go with Grattan and Knight in Worcester; George Sutherland, '16, to go with the New York and Queens; and Al Kullman, '25, to go with Hubbard and Company, Pittsburgh. Not caring to be left all alone I also have packed up and have gone where there is one other Technology man, Newhall, '22, XIII, in the Dravo Contracting Company, engineering works department, fabricating steel for barges and towboats, dredges and sanddiggers, caissons for bridges, and steel for a New York subway tunnel.

"This is enough strain on the typewriter for one evening so I'm going to call it a letter and let it go at that. What in blazes is the matter with the right hand of the rest of Course VI?"

- H. G. Donovan, General Secretary, 139 Girard Avenue, Hartford, Conn.

Course II

One of our number was touched by the appeal for notes in the March issue of The Review, but the rest of you sure have a tough skin and I guess you are proud of it. Bill Walterskirchen started out from school with the Engineering Company of Des Moines, Iowa, then to the Kewanee Boiler Company of Kewanee, Ill., and after two years in the research department was sent to their branch office in Milwaukee where he has been for two years. It took four years to get this information from Bill.

Homer Davis sent me an interesting clipping about Rosenwald's marriage, and gave an address in Chicago for himself, but not any news as to what he was doing. — There are several Technology men here in Syracuse with the Atmospheric Nitrogen Corporation who have come from Stone and Webster, but we don't get any 1924 men up here.

How about at least one letter this year, fellows, and send it in when you read this?

— Fred S. Hungerford, Secretary, Guild House, Solvay, N. Y.

Course XIII

News for the past few months has been scarce but a letter from Jimmie Wong will be of interest to us all. So that all may get the benefit of it I am giving the substance of his letter herewith: "There is no prospect of my paying you a visit at present, but I am going in the opposite direction. However, I am remembering the Twenty-Fifth Anniversary if I don't see you before then! Probably you would like a little news from me about myself. Since I left you in August, 1925, I was with Workman, Clark and Company at Belfast for a year (builders of most of the United Fruit fleet and the new motor liner Bermuda). In September, 1926, I went east as an engineer on the Antenor, a twin screw, single reduction turbine vessel of the Blue Funnel Line. On the voyage I got leave and managed to go home for a short visit. Since I came back in January, 1927, I have been connected with the engineering depot of this firm in Liverpool. Since November last I have been outside assisting in surveying several vessels of the company, and very soon (within this month) I shall be traveling east again. I am going to Hong Kong to be the assistant superintendent engineer at that port for the Blue Funnel Line. We have several ships calling at Boston and New York, and so on, and you can't miss them. In writing please address care of Engineering Department, Alfred Holt and Company, Liverpool, England, until I get settled in Hong Kong, then I'll let you know my permanent address."

Contrary to a statement made in the last Review I have heard from Harold Young. He has decided to postpone his trip to the west coast and will continue to locate in Boston as an efficiency engineer. Another piece of news of particular interest is that Ing Lee is still alive as we have received a change of address from our Class Secretary. He is apparently still in Dallas, where his new address is 2503 Elgin Street. Now we at least know you're living, so let's hear from you personally, Ing; we're all interested.

I hope some of the other fellows will report

between now and next issue. — Gordon C. Joyce, Secretary, 16 Grove Street, Malden, Mass.

March dinner, Frank Avignone. Although he was a Course X man once he now

uses an opthalmoscope to earn his living. This isn't so bad considering a few of the odd businesses we engineers get into, such as selling books or designing sausage machinery. - Fred Sommer drove around the other day in a new Ford sport coupé. It looks so much better than my Model T, 1915, that we have decided to use it to get to the Reunion of the Technology Clubs Associated at Atlantic City this May. Just as another point of interest for Toni Lauria: the Model T takes 30 x 31/2 and 30 x 3 tires; and they are needed just as much as the 30 x 3.4's that Roger Ward mentions. - F. K. Anderson was in Fall River for Christmas, having gotten a leave of absence from the Illinois State Highway Department. - Frank McGinnis reports plenty of work for the Claude Neon Lights, these pretty red signs that tell you what to buy. His company has moved several times to larger quarters so Frank must be doing well.

Mr. and Mrs. Shigefusa Kanda announce the marriage of their daughter, Hatsue, to Mr. Yoshio Ogawa on Saturday, February 25, 1928, Bridgeport, Conn. In the same mail was the following letter from Ed. "Am sorry that I must leave New York in a hurry for Japan. It's an order of the company for which I am working so I can't kick. This is my request that I want you to say good-bye to the boys. I had only two weeks' notice to leave when I was in Detroit. Will drop a card from Japan." Best of luck to you, Ed, and I hope you will be able to make it more than a card when you write.

Sam Spiker has entered the army school for flying at March Field, Riverside, Calif., and has requested me to hold down his job until he is out of the army, "any time from one week to one year." Here goes. - C. W. Allen is with the International Shoe Company, St. Louis, Mo., where he and Joe Lund are trying to work out a wage incentive plan for semiautomatic machines where straight piece work is not advisable. - At present H. S. Allen is doing industrial engineering work for the Orpin Desk Company of Charlestown. He has held several jobs with the Condit Electrical Manufacturing Company, the Goodwill Shoe Company, and the Heywood Wakefield Company, getting a lot of good experience from all except the one that went out of business after he had been with them only two weeks. In general his present job is to install a system of inventory control, piece rates, and finally a cost system, probably "Standard Cost."

Allen wants to see some of the '25 men more frequently and writes: "There is one thing I would like, and that is to get the fellows around Boston together once in a while, but there doesn't seem to be any one to start something. I have an idea, though, that we are all passing up a very good meeting place. I refer to the monthly meetings of the Boston Chapters of Industrial Engineers. When I am able I have attended these meetings regularly, and found them a good place to meet men well up in the field and to learn

something helpful in our line of work."—Clarence Barron is with Stone and Webster in Boston, engaged in statistical work. — John E. Black is living at the Orange, N. J., Y. M. C. A., the only '25 man of the eight Technology men there. His job is time study and statistical work for the Monroe Calculating Machine Company.

Russ Damon is married and in business for himself, selling insurance. - Wendell F. Burbank has risen to the position of territorial salesman for the White Company, after having done a good bit of traveling in connection with his sales work. He is located in Charleston, W. Va., with a good piece of said state for his territory. - Arthur E. Bysshe, with H. L. Doherty and Company of New York, recently made a detailed analysis of oil securities for an investment trust which proved very interesting. - Calvin A. Campbell, Jr., is a third year student in the Harvard Law School, - Jim Clifford is general manager and lessee of the Young Car Company, manufacturers of coal mine cars and mining equipment, Evansville, Ind. He says, "I seem to be located in an arid region as far as Technology men go. I haven't seen any one from the Institute in ages. I hope somebody will decide to make an exploring trip into southern Indiana sometime and give me a thrill."

Austy Cole has been traveling and selling, mostly in the South for H. C. Cole Milling Company, Chester, Ill. He also reports seeing no Technology men. - Lewis Collins, after testing radio apparatus since November 25 for the Wireless Specialty Apparatus Company of Jamaica Plain, writes, "I'm taking a night school course in accounting and business law. If what I learned about them at Technology is any sign of what I learned in other courses, there sure is a lot I missed. I'd like to go back and take Course XV over again." Robert E. Dodd worked for a while with Colts Patent Firearm Manufacturing Company and then changed to the General Plasters, Inc., selling Dusey molding material in New England and New York. He must be doing considerable traveling. - John C. Dunbar is with the New England Tel. and Tel. Co. in Boston. — Julien J. Edgerly is with the Massachusetts Public Works Department Division of Highways as a civil engineer. His record is as follows: married; hasn't seen any Course XV men lately; would like to get into aviation; worked one-half year with the Edison Electric Illuminating Company, one year with the New England Tel. and Tel. Co., one-half year with the General Electric, and one year as Division Sales Manager, Club Aluminum Company.

William Filene graduated from Antioch last June, and when last heard from was looking for market analysis work. — W. A. Gordon, Jr., was married on September 18, 1926. Until June, 1927, he was with the Bell Telephone Company of Pennsylvania, then went with the Murray Iron Works Company, Burlington, Iowa, builders of steam engines, turbines, and boilers. — C. A. Higgins of the Hammond Radio Laboratory at Gloucester was married last December. — Marvin H. Green is branch manager of a sales office of the Elliot Adding Machine Company. — The New Hampshire Highway Department is employing Sheldon T. Hare to inspect bridges. — Cyrus Hosmer, of the Hood

Rubber Company, Watertown, has been married long enough to have a daughter one year old. — Ed Johnston has taken the position of factory superintendent of the Crescent Washing Machine Division of the Hobart Manufacturing Company, Troy, Ohio. He is another who has married. — Walter Jones says his recent life doesn't offer any excitement worth putting in The Review. And he is in Chicago as an accountant for the Western Electric Company.

Frank Fricker writes from the South: "Ethyl gasoline, as the outstanding antiknock motor fuel of the world, is being marketed by thirty oil companies in the United States alone, and by many more jobbers. I am interested in increasing their sales and spend my time with the various companies marketing it in my field which, after jumping all over the South, has been definitely assigned to me as the states of Georgia and Florida. I give talks before trade organizations, civic clubs, and so on, as well as company organizations, settle any complaints attributed to our product, call on the oil and automotive trade, and further the sale of our customers' various brands of gasoline in any conceivable way. Of particular interest might be the fact that I carry with me and use at the various meetings a special outfit, built up around a high compression Delco-Light motor, for the purpose of actually demonstrating the superior merits of ethyl-treated gasoline. It is generally known, I believe, that we simply market our ethyl fluid, containing the active anti-knock agent, tetraethyl, to the various oil companies under contract, and that they add it to their gasoline. One meeting our requirements, in minute quantities, does not exceed 3 cu. cm. per gallon of gasoline." - FRANK W. PRESTON, General Secretary, 17 Gramercy Park, New York, N. Y.

Course I

I received an unexpected letter from Worthington a few days ago. He has left the sunny south for a while and is now located in Potsdam, N. Y., with the St. Lawrence Valley Power Corporation. Let him tell you about it: "Way back in October I was transferred from the Louisville office of the U. S. Engineer Corps to that at Huntington, W. Va., for a two months' stay which lengthened into four. My chief occupation while in Huntington was making reports to the Federal Power Commission on proposed hydro-electric developments. I was fortunate in being able to take a field trip through the mountains of West Virginia and Virginia, down to the North Carolina border.

"In February I accepted a position in Potsdam, N. Y., so, after returning to Louisville, came north. Potsdam is a small place and I had never heard of it until this winter. It is in the northermost part of New York State and fifteen miles from the St. Lawrence River. The St. Lawrence Valley Power Corporation is a small utility company, subsidiary to the Aluminum Company of America. My work is of a designing nature for a power house at present, with perhaps some outside work in the summer."

Fred Rice's latest address is the City Point Inn, Hopewell, Va. I think that he is working on the Atmospheric Nitrogen Corporation development down there. (That is the one on which I am working here in Syracuse.)—

Glenn Gilboy had a paper in the February *Proceedings* of the A. S. C. E. on "The Compressibility of Sand-Mica Mixtures." He is listed as Research Associate in the Department of Civil Engineering at the Institute.

News doesn't seem to filter out Syracuse way very readily so you will have to excuse the short report as well as the absence of one last month.—HAROLD V. ROBICHAU, Secretary, Atmospheric Nitrogen Corporation, Syracuse, N. Y.

Course II

I have almost forgotten when these blurbs are due, but I've got two letters here which are more than enough to make a column so I'll write anyway. About a week ago I received a sheet headed 646 Argyle Road, Brooklyn, and signed Chick Doucette. Chick still takes life seriously and is looking for an education. It seems he didn't get one at the Institute and so he's looking for one at New York University - a funny place to get educated I should think - but then he only spends his nights there. During the day he and Chink Drew are still working for Mr. Schrader. You will note in any Saturday Evening Post that Mr. Schrader has been making tire valves since 1844, which makes the old man eighty-four and a little bald on top. Pa Schrader has been feeling his years of late and has been looking for some one to help him whittle out his welfs (as Mr. Alsos would say) and so he got Messrs. Doucette and Drew to keep the shop open while he went out for his schnapps. Chick says they are doing fine and after extensive research have devised a new method of testing their product. I'll pass it along for the benefit of those more prosperous classmates who have been able to buy bicycles. The first step consists of expectorating on the index finger of the right hand, and next, with the aid of this moistened finger, a salivary film is deposited on the valve stem. If this film fails to retain its original plane form but assumes the proportions of an oblate spheroid you may rest assured that there is a Schrader valve within. This only goes to prove how wonderful are the works of science. Chick didn't talk about himself all the time. He even invited me to have dinner with him again. I'm sorry but Buffalo is just as far away from Brooklyh as ever and I see no immediate prospects of my leaving what they call up here the Queen City of the Lakes. He casually mentions his wife when I would rather he ventured into some detail. Doubtless there are many classmates who stand at the crossroads in utter indecision, wondering whether they should take the fatal step or continue through life ignorant of the joys of connubial bliss, and a few words from one who knows would not be at all amiss. Myron says that he is going to send me a letter from Bob Huthsteiner and that letters addressed to Walter Hickey at Massena get returned without further ceremony. Perhaps Walter is looking for Henry Chippendale.

The other letter was from Jocko Malone. It was so long I had to number the pages to keep them straight. First Nelson wants to correct the impression sent in by Toni Lauria. He is not a textile expert for there are still approximately three things which he has yet to learn. He goes on to say that the real expert is Toni himself. Toni will soon be giving an

Aldred lecture and, when President of the Goodyear Company, will distribute tires as Christmas presents. I mention here as a point of interest that a Chevie takes 30 x 4.40 tires. I just looked to make sure. Jocko has been working with the Associated Factories Mutual since the Senior Prom and his inspection tours take him all over what he calls the sunny and cloudy South (also termed solid, Ed), Pennsylvania, Kentucky, Ohio, and way stations. When he wrote the letter he was back in Boston having his shirts washed, and was honored with a visit from Hung Lee and Max Levine. Lee received his S.M. in 1926, has been working for Stone and Webster on power plants, and on March 24 left on the Leviathan for China, where he expects to do general contracting. I didn't know that the Leviathan went through China but that's Jocko's story and I stick to it.

Then there's Max Levine. I remember Max used to cut quite a figure in his uniform. I wonder if he still has it. At this point I had better quote Nelson verbatim. He says, "Levine is at present a prosperous executive for the Kay Manufacturing Company of Brooklyn with headquarters in Boston. His concern manifests their principle complement in bed springs and Max I am sure will inform any of the fellows who are about to take the big step with some young lady just what to consider in furnishing the boudoir. Further credentials may be obtained from Max." I'm sorry but I can't give Max's address or consulting hours, but perhaps he'll write and I can include this further information in the next issue. Jocko also has news of Wilder Perkins. It seems Wilder asked a very important question of a young Passaic lady and the young lady answered in the affirmative. I have no details but I suppose he is working harder than ever for the Manhattan Rubber Company and possibly has sold his Ford. And so I have reached page six of Nelson D. Malone's letter. He doesn't say whether he has been married lately but since he wrote from the Huntington Avenue "Y" I assume that the answer is no. And now, my dears, it is time that Flopsy and Mopsy and Cottontail were fast asleep. — ROGER WARD, Secretary, c/o Curtiss Aëroplane and Motor Company, Inc., 74 Kail Street, Buffalo, N. Y.

COURSE V

This month's encyclical letter is delivered amid much travail on the part of your Secretary, what with Spring, beautiful Spring, icumen in and the birdies that sing, tra-la. The seasonal fever has hit me so hard that I'm doing just enough work not to look too sheepish on pay day. The rest of the time this young man's fancy lightly turns to places where tennis courts are well-baked and women only half o' that.

Course V has developed a Man of Mystery in the person of one John Earl Chrystal. Several of you have inquired about him but the only information that I can give is that he stayed at the Institute for some time after graduation and then hied himself off to Mexico to play with chihuahuas, or whatever they call burettes down there. Further than that, deponent knoweth not but perhaps somebody can give me an inkling of his present location.

To quote verbatim from Tucker's last letter: "After spending the summer at home,

and on a motorboat cruise with Professor Mulliken, I came here with the du Pont Company the first of September. In spite of the fact that I've been here ever since, du Pont stock is still going up." We all wish, Tucker, that it keeps climbing and that you have a good block of it before long. Watching du Pont stock is the only source of entertainment in Wilmington, Del., if I can judge from a short visit paid to the town last year. Tucker hints that he was forced to get a passport to go from the United States to Wilming-

That reminds me of the discussions Joe Cashman and I carried on regarding the relative rural characteristics of Attleboro, where are my lares and penates, and of Norwood, Mass., that wide place in the main highway between Boston and Providence that is already boasting of having nurtured and reared that rising young patent lawyer: Cashman, J. Joe always maintained that Norwood had it all over Attleboro because it had sidewalks whereas the Indian trails in Attleboro were pretty tough in the dark, what with branches in your face and the snakes underfoot.

I have been accused of not telling enough of my own doings on this page. Since it will save a lot of letter-writing, I can say that I am working for a New York City milk concern, the Borden Milk Company. If that disgusting little Breer boy in the back row will kindly stop whispering that I'm really driving a milk wagon, my activities deal with powdered milk products for the feeding of infants and invalids. I travel all over New England and New York, calling on doctors and hospitals, introducing this milk and demonstrating its use. The job takes quite some chemistry, especially when I get involved in the discussions of digestion, assimilation, and metabolism. Spare time is taken up in the study of the latest developments in infant feeding so as to keep abreast of the times. It is a very fascinating subject and I'm glad to say that I'm getting the knack of feeding the little critters, the artificially fed ones at least. Any time I can be of service to you men, let me know. Don't all knock wood, now. - GERALD MILOT, Secretary, 117 Pine Street, Attleboro, Mass.

Famine stalks in the once flourishing land of derKonvergenzpunkt, despite the fact that it is spring and the mating season. Scarcely a blooming bit of news can be discovered in all the stark reaches of the 1926 demesne, not even an engraved pronouncement of some sort from Bean Lambert. It is in order to pray for rain.

The Boston Evening Transcript recently reported the engagement of Miss Ellen Frothingham of Boston to William W. Dunnell, and the attention of all readers is called to the Course X Notes where, among others, Lee Cummings makes public his connubial plans. For each and all these forward-looking folk we drain a chalice of sparkling Burgundy, and yet another for Hymen that he may call out favorable winds for these new barks.

Ray Mancha, who is with the Mancha Storage Battery Locomotive Company of St. Louis, called at the Institute recently. Howard Humphrey, with the firm of Freeland and Warren, Statler Building, Boston, is frequently seen in these environs. Chippy Chase and his wife now live at 1600 Commonwealth Avenue, Boston. He is assistant to the Treasurer of the National Shawmut Corpora-

One issue of The Review remains before the summer interlude. Der Konvergenzpunkt and the Course Secretaries severally will appreciate any efforts to relieve the news famine. - James R. Killian, Jr., Secretary, Room 3-205, M. I. T., Cambridge, Mass.

Course V

Here it is the twentieth of March and no one has written to inquire into the state of my German. In a great haste to get somewhere sometime in early January I coined a name, Chemikersekretariat, to harmonize and vie with der Konvergenzpunkt. After having gotten by so well with this atrocity, I hesitate, but in the interests of the fair reputation of the Department of Modern Languages I must rescind the last three letters and put an umlaut over the "a", the Editors and the printer willing. Chemikersekretär - there it is.

While the rest of us have been hibernating, playing bridge, eating, and going to the movies in a comparatively moderate climate, Van Blarcom, amid the alternating snows and May zephyrs of Montana, has been bowling. Witness this clipping from the A. C. M. Club News: "A new champ, the rottenest bowler on the plant, made his bow last week when Ernest Van Blarcom, one of Jim Murphy's gang, rolled 42-51-72, a grand total of 165, or exactly fifty-five pins per game. Ole Snyder says that on investigating the matter he found that Van was laboring under the impression that it was against the rules to put your fingers in the holes of the ball."

Although Van didn't send this himself, he did write a couple of times entreating me to get the Pb out and write some notes for The Review." I hope he realizes that he's the main reason for this outburst, and I would that some of you others would take his advice to heart. Climate isn't the only funny thing about Montana. Van says the electromotive series, solubility tables, and other chemical impedimenta refuse to function as advertised out there. Seems like all data will have to be revised or sub-titled, "Valid except in the State of Montana, U. S. A." Van and der Chemikersekretär are quite incapable of understanding each other's sarcasm, but at least we're still friends and correspond. Van sends along word that Mrs. Van is enjoying good health and likes that antichemical state a great deal.

The only other bit of news is as yet unconfirmed, to the effect that Chippy Chase was to have taken up a new position in Boston about March 1. [Der Konvergenzpunkt confirms this]. - I. R. MACDONALD, Secretary, 74 Irving Place, New York, N. Y.

COURSE X

Allah be praised! The little cards worked! That's the old spirit, Boys. Next time we'll send out engraved invitations with gilt edges for news, provided, of course, you all send in a dollar in advance. The more dollars we receive the better the gilt will be; perhaps it will be gold. The unfortunate part, however, was that some of the boys filled in the questions and even added a note or two and then did not sign their names. We might expect such things from our friends up the line. Oh well, we won't make that mistake next time.

We received some very happy news from Bill Taylor. His better half presented him with a fine young son, Roger Haviland Taylor, on December 13, 1927. We all hope, Bill, that the youngster and mother are both getting on well and send our congratulations and best wishes. We never really decided the discussion as to who the Course and Class Baby was last spring, but it seems to me that Master Roger Haviland Taylor should be so christened. What do I hear? Mr. Secretary cast one unanimous ballot to that effect.

Now that we have that decided we'll proceed with further business. I was astounded at the replies which came in answer to the third question. What's the matter with Leap Year anyway? Or is it a despicable lack of good taste of the young ladies of this generation, or perhaps it is because the members of this illustrious Course are too keen for Dan Cupid. I might sight the case of W. W. Criswell who, I'm told, evades all entangling engagements when the chase becomes too hot by leaving town. Of course, Boys, that's only hearsay, so don't tell everybody. Well, at any rate, February 29, 1928, was a flop.

Bruce Humphreville is enjoying his work as consulting chemical engineer in Boston. He plans to take in the Chemical Warfare Camp this summer. That may be of some interest to the boys in the C. W. S. who may be planning to go down to Maryland too. -Don Green has been working with the Atmospheric Nitrogen Corporation at Syracuse, N. Y., ironing out the difficulties in that industry and states that they will have to get bigger and better birds in Chile if they hope to compete for the nitric acid market. - Chet Hemeon is with the Rockland and Rockport Lime Company near Bangor, Maine, in charge of their chemical laboratory. He gets down to see Fred Adams occasionally.

Jim Offut and Herb Kaufman were both under the impression that I am married. Not yet, but soon, Boys. July 3 is the day, and what a day to renounce your independence! The remark is only made in jest, for I shall be very happy when the day finally comes, and you must be made merry meanwhile. (This spring weather is affecting me, I can see that.) Well, Jim has had a pretty slow time of it this winter, socially, in Port Clinton, Ohio, but he says things pep up a bit with the warm months. Jim is doing a mighty fine job of it with the U. S. Gypsum people and is in charge of their technical service laboratory. Jim didn't tell me that, however.

Walter Lobo married Miss Kathleen Mahoney, Paul Mahoney's sister, on January 23. The Class all send their best wishes and congratulations, Walter. Walter took his bride with him to South America. He would undoubtedly be glad to hear from some of you. His address for the next three years will be, care of Cia Agricola Caucana Palmira, Valle, Republic of Colombia. - Art Baker is still in the wilds of Pennsylvania with the Hercules Powder Company and finds little to write about. We are darn glad to know he is still with us. - Jim Dunham, who is with the Keith Dunham Company, is a serious competitor of Baker's in the explosive market. Herb Kaufman is "official sampler" for

the Mutual Chemical Company of America,

or at least the boys of the Practice School would have him such for the requests they have sent in to Herb for samples of his company's chrom products. Herb did nothing but read Washington's "Farewell Address" during February and has scrupulously followed his advice in avoiding entangling alliances. Herb finds things quiet even in little old New York. — Ted Mangelsdorf, who is an instruc-tor in the Gas and Fuel Course, crashed through with a big letter for which we are duly grateful. My conscience seems to trouble me; I'm afraid we failed to congratulate Ted on his marriage to Miss Beatrice Hooley last August in an earlier communication, but the wish is just as sincere and hearty, Ted, even though it is a little late. - Dave Shepard, too, was married in December, but our Gensec stole our thunder there, but the Course especially extends its best wishes, Dave. Incidentally, Dave is playing in the Standard Oil Company's band in Baton Rouge, La. It must be some band as Dave is the next to shortest man in the outfit.

Charlie McCullough is now with the Footer-Wheeler Corporation. - To those of us who took the Practice School it is of interest to know that Bill Ryan has taken Professor Haslam's place back at the Institute, and also that Gertrude Lord was married to Gene Herman, X-A, on March 26. We wish them both success and happiness. Gene was here with the Eastman Kodak Company and is a mighty fine boy. - Willie McCornack who is at the Institute taking graduate work is making quite a name for himself in dramatic circles, being in both the Tech Show and the Dramatic Club. Mac has also been on the Debating Team which has just won its sixth consecutive debate.

As for myself, there is not much to tell except that I am still in development work for the Eastman Kodak Company and am all agog waiting for July 3 to come around. — Lee Cummings, Secretary, 211 Genesee Park Boulevard, Rochester, N. Y.

The following excerpt from the Boston Herald is our only note of society interest this month: "No date is yet decided upon for the marriage of Miss Barbara Bancroft, daughter of Mr. and Mrs. Frederick Bigelow Bancroft of St. Paul Street, Brookline, to Mr. Robert Charles Wallace [II], son of Mr. and Mrs. John Foster Wallace of Chicago. The engagement was announced at a small luncheon given . . . at the Bancroft home. . . . Miss Bancroft is a graduate of the Mary C. Wheeler School in Providence and has attended the school of the Boston Museum of Fine Arts. Mr. Wallace . . . is

now in business in Indianapolis."

We have had letters recently from Hanks Steinbrenner and Kurt. Hank S. announces that he and his Course XIII headquarters have been moved from Lorain into Cleveland where he may be reached at 2031 Carabel Avenue, Lakewood, Ohio. Hank K., XVI, protested the misspelling of his name in the February Review and adds that, although he froze his ears one day last winter, he is still flying with Dennison Aircraft Corporation at Atlantic.

Dan Sullivan, VI, returned to the Institute as an advance agent in the Westinghouse Company's campaign for men. We didn't see him, but the bulletins credited him with knowing all about what Westinghouse had to offer ambitious young men who would become sales engineers. — Ernie Dodge, VI, dropped in from New York where he is making routine measurements on toll circuits for the New York Telephone Company. He boasts that he rarely gets home before 1 or 2 A.M. — because he's working on the early evening shift. — Howard Chinn, VI-C, again breaks into print as the joint author (with J. K. Clapp, '23,) of a technical paper on "Directional Properties of Transmitting and Receiving Antennae" in the March issue of \$\QST\$.

The anonymous contributor of the following note complements our other accounts of the Foreign Legion: "Amund Enger, XV, the Norweigian Dynamite Crown Prince, writes that he has been in Dresden since last November and likes it very much. . . . He has been in touch with John Drisko, I, but has not seen him. Also, he expects to get in touch with Ike Swope, VI, who left last February for Germany to become a graduate student in the university at Charlottenberg. Ike's address is in care of Mrs. Julia Lewis, American Embassy, Berlin."

As these notes go to press, F. E. Anderson, XV, and This Secretary are planning a dinner for the '27 men in the Boston district to be held some time during the week of April 30. Everyone within commuting distance of Boston will have been sent a notice, but if anyone has been overlooked he can get the details by calling either of us. Ned may be reached in the Department of Economics at Technology. — John D. Crawford, Secretary, Room 3-205, M. I. T., Cambridge, Mass.

Course I

This 1927 gang of Civil and Sanitary Engineers should take off their hats to two fellows who have sent in more news than I have received in four moons. One of these fellows is Ken Smith, and the other is Carl Redd. Ken Smith is the tall boy who was always in the lead in Bridge Design. Probably I should not mention this now, after receiving such a fine letter, but I have been anxious to know if Ken ever did finish that sixty foot span railroad bridge which was due before exams started.

Redd wrote on white paper this time. As he has given up railroad work he probably lost the source of his stationery supply. I didn't expect him to write so much on paper furnished by himself. Anyway, I hope he soon gets back to railroad work for then I can expect even longer letters.

I think that each one likes to hear the other fellow express himself in his own words, so I am going to repeat these two letters practically as I received them. This for Ken Smith: "It's an old story. I have been going to write for months, but as I have over forty friends scattered from Norway (relatives in Scotland and Canada) to India, Maine to California, and from Wisconsin to Louisiana and Georgia, you can see I am usually busy enough making up alibis on their account without finding time to write to many of the fellows in the Course and relaying this information to you in turn. However, being here in New York I do run into a number of the fellows and hear of many more, so when I have seen their names missing

(mine got in under Course XV one month) I have felt rather guilty, but heretofore I have lacked Larry Cheney's will power to confess.

"I might as well bring myself up to date first. I finished up at Cambridge and spent a couple of weeks loafing around the New York Athletic Club at Travers Island, Pelham, N. Y., and competing in track meets with a batting average of 0.500 when I got through. I finished that up, and when the team left for the Nationals I was left behind and so had to look for a job. I had established contact with the Turner Construction Company while in Cambridge and lined up with them, after turning down three jobs which were to take me to New Jersey. My first assignment with Turner was timekeeper and material clerk on a six story reinforced concrete warehouse for the American Lead Pencil Company in Hoboken. New Jersey after all and in spite of all. The titles meant nothing as Ralph Fulton, Brown '27, and myself were the job organization outside of the superintendent. We did everything, checked forms, ran the guns, kept books, took time, checked material, and were everything from office boy to assistant superintendent (our self-imposed titles). I left Hoboken in October to go to the Telephone Company's new twenty-three story steel and brick office building in Newark. I landed on the job while they were still excavating and sinking the piers, open caissons. Assigned to the field survey party I have been there since. We had to run building lines, set tacks for the columns, give elevations, check the settlement of nearby buildings, check progress, and a dozen other things. Later on when our chief of party became an assistant superintendent, I took charge of the party on elevations. Now the work has decreased to such an extent that I spend only about half my time with the party, the rest is spent being keeper of the archives - keeping plans and specifications in shape and up to date, and in making a few trips each week to Harrison, across the river, to try to speed up the stone cutting firm. All of which is more or less routine but which gives me a fine chance to know the plans and learn a lot about the building. The job is well along now but will require the remainder of the year to complete. The derricks are now erecting the nineteenth and twentieth floor columns and the steel will be complete in a week or two.

"Did you, perchance, receive your first desire to be an engineer through thrilling pictures of iron workers and bridge workers riding beams aloft and nonchalantly running along a six-inch beam to halt it into place? I am not so sure how much of my desire was so influenced but I am sure, now, that all of it along those lines has been thoroughly revamped. Oh! I walk the steel; I have to. I've even set up a gun on two intersecting beams and stood on one of them at the same time seeing that neither I nor the gun was dislodged, and at the same time looking at my sight, but it is not all the fun it is cracked up to be; and when I have to travel a six-inch beam on the outside, at the eighteenth floor, 200 feet above the street, I am quite apt to do my walking on the lower flange, while using the upper for a hand rail. It is really advisable on a windy day.

"That is nearly all about myself. I am living at home and it takes me an hour and a

half from Long Island to New Jersey and that means getting up at five to get to work by eight, on account of the way the train schedules are arranged. I have been training every night at Columbia University with George Leness, and so do not get home for supper until 9:15. Just time to eat and fall into bed, so as to get the bare amount of sleep necessary before rolling out for another day. All of which has not left me a great deal of time to get into mischief. Sorry, but I can't report any engagements or marriages.

'I managed to get to Boston between jobs and take in a football game and fraternity dance and see a few people. Outside of that I have been sticking pretty close to business. I saw Russ Westerhoff when in Cambridge and also at Christmas time. He is back at the Institute doing graduate work in water power. He reports that the only thing worse than the Structures we had to take is that which he is now taking under Spofford. [Upon reading this will each one bow his head for a few moments of silent prayer? - Lee.] Russ went with Ford, Bacon and Davis, engineers in New York, and spent the first part of the summer tracing in their drafting room here and was then sent to Phoenix, Ariz., to watch and report on drilling operations. He went back to the Institute for this year and plans to rejoin them in the summer after he collects his Master's. While in Cambridge I also ran into Monk Harvey who is doing graduate work.

"Fitzpatrick was with Turner as a payroll clerk on the Bloomingdale warehouse job in Long Island City but got tired of it and left with another fellow in a Ford to go south looking for work. I haven't heard from him since he left. Greenhalge finished one job with Turner and then left. Don't know where he is now. George Evans was here in New York for a few weeks in Turner's New York office and is now located in Newport News, Va. 'We' are putting up a series of fine bridges across the James and various nearby creeks. Haven't heard from him since he went down there, but had a letter from a girl there whom I know. She had met him and said that he had been sick so guess that

explains it.

"George Copeland is now in Mount Vernon, N. Y., with a contractor. Cope was a tutor in a dude ranch-school somewhere in Arizona for the summer. He went on to the coast at the end of the summer and reports hydro-electric work dead. He said the Southern California Edison Company was building steam stations. He worked as a rear chainman for a survey party for a while but it seems as if he got tired and came back east. Russ saw him at the Tech Show in New York, I had a race on that night and couldn't get to the show. I wish I had been able to get there as I should have seen a lot of the fellows, not so many from our Course but others - Lyles, Houston, and so on. I saw Red Fowler, XV, in the Penn Station the other night, but as I was doing my nightly quarter mile sprint with plain and fancy open field running through the crowds from Sixth Avenue to Seventh Avenue, down the passage to the train shed, I didn't have time to stop. I missed the train so came back to look for him but he had disappeared.

"Powell showed up in Newark one day as I was measuring the depth of pier holes. He was

sporting an incinerator which a novelist would call a briar pipe. Said furnace about hid his face. He said he had inherited my old job at the Institute with Major Smith for the summer and then had worked on a survey in New Jersey. This particular period he was 'resting.'

"Here is some dope which you might well print concerning some fellows who were at summer camp with us. Nip Mattson, my roommate, is in Fargo, N. D., as assistant supervisor of bridges and buildings. I ran into Barney Rosser on the tube one night. He is with the Telephone Company in Newark in the plant department. Bill Rivers, who was an instructor, is in Calcutta, India, with the Standard Oil Company. MacDuffie is an English instructor at the Institute. Tom Price is married and lives in Erie, Penna., and is with the Hammerhill Paper Company.

"I run into a good many fellows and hear of many more and as I have taken up enough of your time, I'll not bother about any more. Personally, I think I've made a noble, if belated start. However, I give you fair warning, in the future news of myself or others will probably come on a note or card and contain merely a few facts or enclose a clipping or announcement." I italicized those two words for I'm wondering about their true significance. Maybe some one can enlighten me."

I didn't realize just how long Ken's letter was until I had typed it, so if Redd won't mind I'll save his letter until next month and give it some undivided attention.—LEROY G. MILLER, Secretary, 18 Park Street, Cort-

land, N. Y.

COURSE IV

The number of letters that I have received from Course IV men is increasing rapidly. Within the last two months the grand total of one reached my desk.

From the wilds and sylvan depths of Forest Avenue, Dayton, Ohio, came an epistle in the well recognized hand of Johnnie Kuhns. Thank you, John, and before you read these lines in The Review I hope to have written to you. Johnnie has cast his lot with the Unit Steel Company of Dayton and is climbing the ladder of success. He tells us, "I had about decided to go to regions unexplored by me when a Technology Alumnus in town took pity on me and gave me a job as time-keeper on a new million dollar art museum. I made about enough to feed my starving body and no more, and when a month later I was offered a job with the Unit Steel Company at Dayton, I took it and they have permitted me to stay with them since. My job is varied — estimating, layouts, drafting, but I like it." Johnnie lets me in on a little secret, too, fellows! "I'm not married yet!" he says. We, too, all have hopes, you know, John.

The earth seems to have swallowed our friends in Option I for I haven't seen nor heard from one of its members. As for Patterson! I guess the Philadelphia beer just suits him so that he isn't able to write to an old side-kick. — Brother Bourbeau from Quebec called at the office a while ago, but as I did not happen to be in town, I missed him, and had to forego the pleasure of his company. — The last I heard of Henry T. Lyons he was in

Movieland, expecting most any day to drop down to that peaceful land of Mexico.

As for your Secretary. Well, Providence, for the past month, has been his home and from the looks of things it will be for some time. I am the field engineer in Rhode Island for the Portland Cement Association, and my headquarters are at Providence. My job is to sell concrete streets, sidewalks and roads to the towns and cities, and in general to promote the use of concrete. I like the work and our short course in Concrete Lab comes in very handy along with our reinforced concrete design. There are all types of pamphlets on concrete for distribution, and if there is anything that you fellows might want to know concerning it, don't hesitate to write to one of our district offices for information, or drop me a line and I'll help you. "Concrete for Permanence.

Let's hear from more of you fellows now! — Thomas E. Hegarty, Secretary, 195 Brown Street, Providence, R. I.

Course V

The sun and the sons come up and get up just the same. All of which is to state that there is no change in the lay of the land. We all break the requisite amount of glassware each week and burn our fingers to observe the workings of the laws of nature. And, a happy time is being had by all.

Stuart Bugbee writes that after an excursion into the realm of electrical properties of some materials, he is back at chemical research. He plans to more than fill the lab coat of the Ph.D. who held the position before him. Two months ago Bug made a week-end trip to New York to see the town and chew the fat with I. R. Macdonald, V, '26. The latter looks as jolly as usual. Though New York is all right, he would like a change of surroundings for a while.—EDWARD T. DUNN, Secretary, 205 East Stoughton Street, Champaign, Ill.

COURSE X

Three new correspondents have developed this month. At this rate I shall hear from every one in another year, yet I am willing to bet that I will not.

Lyn Perry has been far away and returned since we heard from him. Until the first of the year he was working for the Anglo-Chilean Consolidated Nitrate Corporation at their plant in the desert about sixty miles inland from Tocopilla, Chile. That bare fact was accompanied by the one that he is now with the Barrett Company in Everett. These would seem to be a foundation for some good stories, for which I am anxiously waiting.

Ed Norris writes from Akron, where he is working with the Goodyear Tire and Rubber Company. His letter seemed mostly a panegyric of the Goodyear Company, so I suppose that he is satisfied. His work is reclaiming rubber, "rejuvenating most any old rubber article," according to him.

Abe Silverman also favored me with a letter, telling of El Paso and vicinity, vicinity meaning Juarez, just over the Rio Grande. He is in the laboratory of the American Smelting and Refining Company, settling assays between the mine and the smelter. We should not worry too much about him for they close the bridge to Juarez at 9 P.M., ostensibly to keep out the wild Mexican

neighbors, but more likely to keep Abe at home.

Don Calderwood stopped translating German papers long enough to write a card. On the back of one postal he found room to comment on the University of Rochester co-eds, his work, the Technology Club, and phenol recovery. He would have had to start writing on the edge if he had gone into more detail.

More news of Woolfenden, who sailed on February 26 for Panama, Hawaii, Manila, Shanghai, and Hongkong.—Ferguson has gone the way of many good chemical engineers and is now working in the high pressure laboratory of the Standard Oil Development Company.—Donald H. Spitzli, Secretary, 338 Harvard Street, Cambridge, Mass.

COURSE XIV

There is not a great deal of news to be chronicled in the current issue of The Review concerning recent happenings in the Course. We might, however, take this opportunity to reassure certain members of the Course that entries may still be filed in the grand sweepstakes for the Course XIV cup. In other words, as far as we know, and unless some enterprising (but nevertheless shy and bashful) electrochemite has been holding out on us, there is no apparent danger of the cup being lifted in the immediate future. Of interest in the progress of the sweepstakes is the fact that Lyman Johnson is catching up with Bill Erwin as the favorite to win, This followed when word was received from Bill that he had left the employ of the Oxford Paper Company and had shipped aboard a seaworthy liner for an extended voyage o'er the briny deep. Bill is now calling on foreign ports, and a recent card from Antwerp states that he is still on deck and enjoying the captivating wiles of les femmes belgiques.

Johnson and Swift are still at school and expect to get their Master's degree in June. As far as I know, Mankowich is still in Waterbury, Conn., with the Chromium Corporation. I recently met Hal Staebner at the Bell Telephone Laboratories in New York where he is doing some interesting work on cable characteristics. — Dinan, Marsh, and Maguire are still listed in the Legion of the Unheard-from, no word having been received to date concerning the whereabouts or activities of either. Let's hope they decide to drop us a line. — NATHAN COHN, Secretary, 44 East Tulpehocken Street, Germantown, Penna.

COURSE XV

The gang certainly has responded nobly to my requests for news. This month has borne a bumper crop of letters. Even Count Enger writes from Germany. Keep up the good work, fellows, because this column of ours is the most interesting thing in The Review as far as we are concerned, and it will only be interesting as long as we all chip in our little bitsa bull from time to time. I wish I could find time to answer personally all of your letters, but that would be a rather gigantic undertaking, so I'll just have to let this monthly letter serve the purpose.

I've been rather amused by the way most of the letters I receive start off with an apology for laziness. It's really gratifying to see so many indications of the guilty conscience. I hope none of you men get to the point where the conscience ceases to function — otherwise I might never hear from any of you.

Bob Bigelow writes from San Francisco and says that he is playing office manager for the San Francisco district sales agent of the Hobart Manufacturing Company. What with answering telephones, handling correspondence, bossing office boys, keeping the books, and taking care of callers, he's a pretty busy boy. Bob says he hasn't seen any of the '27 gang, although he has been getting together with Jay Balsbaugh, of Central Stations fame, who is teaching at the University of California. I think the California climate agrees with Bob. At least I wouldn't be surprised.

Gus Brunn is just finishing up his training course with the Boston Elevated Railway. He plans to go home this summer and may or may not return to Boston. His letter gives some snatches of news of some of the gang. Evidently Alden Reed is still selling radiators for the American Radiator Company and Shisko is working for a local consulting engineer. Thanks for the dope, Gus.—I received a short note from Dex Coolidge which just missed my epistle for the last Review. Dex is working in his father's company, a small chemical manufacturing concern making barium compounds. Since he is located in Chicago, he has seen Dice Coburn and has been trying to get in touch with Ray Hibbert.

Count Enger writes a most interesting letter from Dresden, where he is located with a firm named Seidel and Naumann, They make typewriters, bicycles, and sewing machines. Some combination! Three cheers for German efficiency! He's been having all sorts of fun learning how to order a beer in German and getting so he can understand all the cuss words. I guess the old boy will be quite a linguist before long. Finally he winds up his letter by saying, "Why did we drive thirty-five miles to Lawrence for a glass of beer on a cold night - and here I don't think of going across the street for some of the wonderful Münchener beer?" You sure make me jealous, because I know exactly what you're talking about. I had my share of Münchener when I was in Heidelberg last summer, I won't forget it in a hurry. The Count has heard from Johnnie Drisko who is now in Danzig but will leave shortly for Breslau. John expects to be studying in Stockholm, Sweden, next year. He seems to be running an international marathon for college degrees.

Charlie Flohr is enjoying life out in Mineral, Wash., where he is working for the State Highway Department. He says it is a charmed land, but a terrible place to get a job. - I have an interesting letter from Professor Freeland's late protégé, and by that I mean little Sammy Gross. He is working for the B. F. Sturtevant Company in the selling end and expects to be transferred to New York. But more important than that, the old boy has entered the state of wedded bliss. As he said in his letter, he is still "rather up in the clouds." Let's hope the landing will be gentle, Sammy. But I can't say Sammy any longer, for he says he has changed his name to Sumner. Whence the eloquence?

Wheaton Hutchinson wishes to be remembered to the gang. He graduated in Course IX-A, but as he's an ex-XV man and there are only one or two others in his Course, he

has adopted me as his Course Secretary. I was certainly glad to hear from you, Hutch, and I don't mind being adopted. Hutch is working at the du Pont die works in Wilmington, Del. He expects to go into the selling for them in the near future. By the way, old man, perhaps I'll see you at the Reunion of the Technology Clubs Associated at Atlantic City on May 25. Will you be there? - Al Nevers is working hard to gain the title of sales engineer with the Sullivan Machinery Company. He went through their six-months training course at the Claremont, N. H., plant, and is now in their Boston office, liking the work first rate. Tom Russell is with the same company in the Railway Exchange Building, St. Louis.

Jim Pilkington is with the Traveler's Insurance Company in Hartford. He is living with a '26 man — George Fogg. Pilk is a loyal member of the Technology Club of Hartford and is quite enthusiastic over their luncheons and meetings. He says they have about thirty or forty at each luncheon. -Bill Reed has been trotting all over the country for the American Tar Products Company. Late in September he was sent to the company's paper mill at Rockton, Ill., where he stayed during October trying to find out how much roofing felt the mill could produce. Then he went to Pittsburgh for ten days to report his findings and returned to Chicago to complete the training course. Since then he has been working on the inventory system of the company. Sounds mighty interesting, Bill. Rabbit Smith has been transferred from the Chicago office of the company to Tollansbee, W. Va., Bill says, and Ray Hibbert has been sent to Pittsburgh. Roger Nowland, who is in the transmission department of the Bell Telephone Company in Pittsburgh, says he has seen Ray Hibbert several times. How's for a letter from you,

Chuck Smith is living at his home at Orange, Conn., and working for the Edward Malley Company in New Haven. At present he is working directly for the general manager, getting out a report on their delivery systems. Chuck was with the Gilchrist Company in Boston until January 21. He was working with payroll budgets, sales commissions, employee training, and what not while with the latter company. Just before he left them he was holding down an assistant buyer's position in their gift shop.

More power to you, Chuck.

As for yours truly, I've been devoting most of my time to the technical end of the business and haven't taken a crack at any Course XV stuff yet. I've been doing research work on some new types of synthetic resins in the laboratories of the Murphy Varnish Company here in Newark. It certainly keeps me busy brushing up my organic chemistry and studying all sorts of technical books, journals, and patents. I'm enjoying it, however, and am getting plenty of valuable experience which will come in handy in the near future, I hope.

I manage to get up to Boston about once a month. It's sure great to be able to drop over to the Institute and see a few familiar faces. Believe me, it certainly makes me long to get "back to the days that were free from care in the 'Ology Varsity Shop.' It's a great life! — GEORGE C. HOUSTON, Secretary, 612 Prospect Street, Maplewood, N. J.

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Technology Club of Albany

HE first regular meeting of the Technology Club of Albany was held Thursday evening, March 22, at Jack's Restaurant. Thirty-one men did justice to one of Jack's famous steak dinners on the heel of a rousing "M-I-T," lead by George Chutter, '21, of Schenectady. President B. R. Rickards, '99, presided at the short business meeting. E. Randolph Haigh, '22, was elected Secretary-Treasurer of the Club in place of William S. Schofield, '23, who had resigned due to his inability to be present regularly at the meetings.

H. W. Bibber, '20, President of the Schenectady Club, headed a delegation of ten men from his Association and extended the best wishes of the parent organization to our newly formed Club. It was a pleasure to have the Schenectadians and we appreciate their good representation at our first meeting. It surely was an inspiration. K. A. Pauly, '96, of Schenectady, reported that no one had yet been selected for the Albany-Schenectady Scholarship at the Institute but that the committee was working hard in an endeavor to find a suitable applicant.

The customary form of constitution of the Technology Alumni Association was read by C. Hancock Wood, '91, Vice-President. It was duly approved and adopted. The date for the annual meeting was set for the third Thursday in March; the annual assessment for membership in the organization was made one dollar; a quorum was set as ten members; and Joe Harrington, '11, was elected to membership on the Executive Committee to serve with the officers of the Club.

The Alumni Association had received almost a unanimous expression from the Alumni residing in Troy that they should unite with the Albany Club in preference to Schenectady, and there was a good delegation of Troy men present. After the business meeting adjourned, Edward H. Sargent, '07, Chief Engineer, Hudson River Regulating District, gave a most interesting illustrated talk on the Sacandaga Dam proposition which is well under way and which will allow the State of New York to govern the flow of the Hudson River. — E. Randolph Haigh, '22, Secretary, University Club, Albany, N. Y.

The Technology Club of New York

The past few weeks have been busy ones indeed for the Club, and particularly for the Investigation Committee and the Board of Governors in deciding upon a new location for club quarters when the lease at 17 Gramercy Park expires on April 30. A great deal of interest has been shown among club members as to the new location, and a meeting of the Club and Technology men in the vicinity of New York, held to discuss the question, was attended by nearly one hundred former members of the Institute.

At a recent meeting of the Board of Governors of the Club, former Dean Alfred E.

Burton was elected an honorary member, and we are cheered by his friendly presence in the house. He is enjoying his work as Director of the American Merchant Marine Library Association, located at Room 205, 67 Wall Street. In connection with his work he distributes many thousands of books to some two thousand ships of the American Merchant Marine fleet. The officers and men greatly appreciate this service, which was inaugurated by Mrs. H. H. Henry and which did such good work for the Merchant Marine during the War. If you have any good books to spare, send them on to Dean Burton, as he will be glad to get them.

Some of the members of the Club received a snapshot from Alex Rice McKim, '85, one of the original founders of the Club, several days ago. It showed a very good likeness of him and another gentleman taking a stroll in Berlin. We failed to recognize the other party, but when Lester Gardner came into the Club a day or so ago after his return from abroad he informed us that he was the mysterious one. Mr. McKim, after spending the winter in Berlin among his German friends, has moved into Switzerland as the first stage of his journey into Italy. He has had a very interesting experience and apparently is

The Club has had quite a few visitors during the past two or three weeks. Palmer Gray of Richmond has been in town to take advantage of the excellent skating during the winter months. A. H. Dolben, '26, has returned from a year in Buenos Aires and is staying at the Club. Another traveler, Samuel H. Cornell, '11, direct from the Philippines, has been with us, off and on, for a few weeks, and this morning William C. Lynch, '12, all the way from San Francisco, blew in for a minute and later for lunch.

Hardly a day goes by without some man from away coming here for lunch or dinner, to play bridge or meet a friend: Jones from Portland, Pendergast, Tom Perry, T. P. Robinson, L. W. Cronkhite, to mention only a few. — The French Universities Post, with R. H. Gilbert, '21, as Club Representative, and D. B. Way and his Class of '19, had dinners in the Stein Room in March. The Stein Room has been the scene of a good many interesting bridge encounters during the winter months. — Duncan R. Linsley, '22, Secretary, Harris, Forbes and Company, 56 William Street, New York, N. Y.

Technology Club of Northern Texas

The Technology Club of Northern Texas met at a dinner, February 8, at the Dallas Athletic Club to greet Orville B. Denison, '11, Executive Secretary of the Alumni Association. Dennie gave us a talk concerning professional and student activities at the Institute covering also recent developments and building projects. Through the courtesy of the Dallas Power and Light Company we had a moving picture projector and operator, and all present greatly enjoyed the two reels

of Technology movies that Dennie had with him.

Resolutions were adopted regretting the resignation of Mr. Denison as Executive Secretary and commending him on the way he has handled the position since its creation and the results obtained during his tenure of office.

The new constitution for the Club was read and adopted, and election of the officers for the ensuing year was held. The results were as follows: President, Frank F. Bell, '10; Vice-President, Mark Lemmon, '16; Secretary-Treasurer, John H. Field, '27; Executive Committee: Frank L. Chase, '90, of Dallas; Thomas S. Byrne, '13, of Fort Worth; George S. Watson, '11, of Dallas.

The following members were present at the dinner meeting: Frank F. Bell, '10; William P. Bentley, '04; W. H. Brotherton, '14; Cedric Burgher, '14; Frank L. Chase, '90; Dr. Paul H. Duff, '16; John H. Field, '27; Carl A. Fuess, '17; Fred R. Gamble, '24; W. M. Gilker, '03; Ralph Illsley, '25; Louis Jacoby, '09; Ingram Lee, '24; Mark Lemmon, '16; C. E. Muller, '92; R. W. Peatross, '14; George R. Pierce, '18; L. A. Russell, '01; Charles Saville, '05; C. H. Tedford, '25; J. J. Terrell, '25; G. H. T. Washburn, '16; George S. Watson, '11, and Dwight Horton, father of two boys now at the Institute: Dwight Junior, '29, and Claude, '30.— John H. Field, '27, Secretary, Southwestern Bell Telephone Company, Dallas, Texas.

Southwestern Association of M. I. T.

We have been using all known methods to increase our attendance at the monthly luncheons and, at the present time, usually have fifteen or twenty present out of a total of fifty-five possibilities. There are considerably more than fifty-five Alumni in our district, but the rest of them do not live within commuting distance of Kansas City.

The last meeting was held at the City Club on Wednesday, March 14, with the following present: Hall, '23; Timanus, '18; Pomeroy, '23; O'Brien, '18; Irwin, '18; Rapelye, '08; Driggs, '21; McPherrin, '14; Sholtz, '22; Breitenbucher, '28; Cushing, '11; Henrici, '06; and Crenshaw, '24. After luncheon Timanus, who is with a prominent consulting engineering firm here, gave a talk on municipal water supplies — a very interesting talk that covered, in a general way, problems met with all over the country. — We are going to have an evening party for men, wives, and others very soon; and you will hear about it in the next issue.

I notice the Southeastern Association's Secretary offers to help any itinerant Alumni out of his city incognito. Here's a hint, Ambach, just give them a little extra help and start them towards Kansas City, and when they land here we will clean them out so badly they will think they were millionaires when they hit your town. Why — because we're considering a scholarship, and may need their help.

To adopt radio tactics, I'd like to ask why Ed Mead, '18, in Norwalk, Conn., and Scott Nicoll, '23, in York, Penna., don't break into these columns once in a while as having been present at an alumni meeting in their district. - B. W. CRENSHAW, '24, Secretary, Henrici-Lowry Engineering Company, 402 Security Building, Kansas City, Mo.

Montana Society of the M. I. T.

Members of the Butte chapter of the Montana tribe of Technology gathered at a dinner at the New Finlen Hotel on February 13 to discuss the matter of a scholarship for Montana. The discussion, done in a preliminary way, was led by Frederick C. Jaccard, '07, head of the scholarship committee. To work out a plan the committee was enlarged to consist of the chairman, G. H. Holmes, Jr., 24; F. C. Gilbert, '98; Jesse L. Maury, '25; and Walter R. C. Russert, '18. This committee was to report at a dinner to be held February 27.

A damper was thrown on the meeting when it was announced that Dennie had resigned. Dennie, during his two short visits to Butte, made many friends, not only for Technology, but for himself, and his visits will be sorely missed in this community. It was he who put the match to the powder which exploded the then lethargic Montana section so that it has been dynamiting ever since. A committee consisting of G. H. Holmes, Jr., '24, George W. Craven, '98, and the "suckretary" were appointed to draft resolutions on Dennie's resignation, and to purchase, fully paid and non-assessable, a memento reminding him of his pleasant days in Butte.

The members then beat a retreat in orderly fashion, in the front line being F. C. Gilbert, '98, G. W. Craven, '98, W. L. Creden, '90, G. H. Holmes, Jr., '24, Walter R. C. Russert, '18, Jesse L. Maury, '25, L. A. Stadler, '01, F. C. Jaccard, '07, and Carl J. Trauerman,

On February 27 the meeting was called to order by Billy Creden, and we were highly honored to have with us our wives, this being the first suffragette meeting in Technology history. In the matter of scholarship, several of the ladies, especially Mrs. Creden, have had wide experience, and after Chairman Jaccard of the scholarship committee had read his report, the ladies led the discussion, had the floor, the table, and ate nearly all the food, being silent only when the dinner check was passed. Some very good ideas were brought forth by our better halves, and it was decided to submit the Jaccard report with full discussion of the same to W. D. B. Motter, Jr., '05, national chairman of the scholarship committee. In the meantime it was voted to send Technology catalogs and other literature to the fifty-six high schools in the state, and also to announce that the \$400 regional scholarship would be available this year. The scholarship plan will be further developed under F. C. Jaccard. Jesse L. Maury is attending to the sending of the catalogs, and the publicity director, who at the closing of this epistle affixes his hand and seal, will have the small job of spreading four million dollars' worth, more or less, of publicity in the Montana newspapers.

It has been the custom at our meetings to pass around a paper on which the members might put their names and classes. This was omitted, as some of the ladies might have thought we were putting down our ages.

As C. W. Goodale, '75, chairman of the Montana section, was not present at the first co-educational meeting, it was voted to send him our felicitations for the good work he has done for our organization, with regrets that he was unable to be with us. - The resolution committee, appointed on the thirteenth, announced the purchase of a brass dinner gong and offered a set of resolutions.

Those who paid their checks at this dinner were W. L. Creden, '90, George W. Craven, '98, F. C. Jaccard, '07, W. R. C. Russert, '18, Samuel Barker, '27, Jesse L. Maury, '25, F. C. Gilbert, '98, Carl J. Trauerman, '07, each of whom was accompanied by his own wife. - CARL J. TRAUERMAN, '07, Secretary, 25 East Broadway, Butte, Mont.

New Haven County Technology Club

For the past two or three years the New Haven County Technology Club has been accumulating a scholarship fund, the income from which will ultimately provide a substantial scholarship in Technology for a representative from this county. In the past, the small net profits which were left over from social affairs were the sole source of additions to the fund but this year we thought we would try to increase it more rapidly, and as a first step in this direction we sponsored a public lecture by William L. Finley of the American Nature Association on March 13. He was introduced by Professor C.-E. A. Winslow, '98, with a few well chosen words about the purposes of the lecture and the standing of the Institute in educational circles. Mr. Finley's lecture, "Wild Animal Outposts," was illustrated by five reels of motion pictures which he took on his recent expedition along the Alaskan Peninsula.

Although we did not make as large a sale of tickets as we had hoped, the lecture resulted in an addition of about sixty dollars to our scholarship fund, and we brought our Club and the Institute to the attention of a considerable number of people who were quite enthusiastic about the lecture and the way in which it was conducted. With the friends whom we made at this time and our experience in conducting a public affair, we feel confident that future events of this kind will prove very profitable to our scholarship fund, and will be an effective means of making

friends for the Institute.

On February 17 a smoker was held at the Faculty Club. John A. Lunn, '17, gave a very interesting talk on refrigeration and W. R. Hainsworth, '21, showed some moving pictures which he had taken of a camping party on Mt. Rainier. This was followed by a discussion of the plans for the Finley lecture. -Hudson B. Hastings, '07, Secretary, 6 Everit Street, New Haven, Conn.

Technology Club of Chicago

It is with regret that we record the death of William T. Blunt, '74, at Chicago on March 3. For years he was one of the active and wide-awake members of the Technology Club of Chicago, and about seven years ago he served as President.

He was in the Government service as

engineer of rivers and harbors as far back as any of us old-timers can remember. Nearly three years ago he accepted an offer from a large firm of developers in Florida to take charge of the engineering in connection with the waterfront of St. Augustine and the island opposite. Some of us visited him there and found him happy and smiling, but the boom ended, his work stopped, and back he came. Early last month he dropped in to our weekly lunch and received the welcome that only a two years' absentee would expect. Blunt looked younger than many men of sixty, and scorned the idea of retiring, even on a pension.

I wonder if some of us old-timers that winter in Florida and become inured to its climate had better not stay there and not risk these northern winters, for the rigor of our winter hastened Mr. Blunt's end. - JAMES Elliott, '25, Secretary, Link Belt Company, 300 W. Pershing Road, Chicago, Ill. Lons-DALE GREEN, '87, Secretary pro tem, 81 East Madison Street, Chicago, Ill.

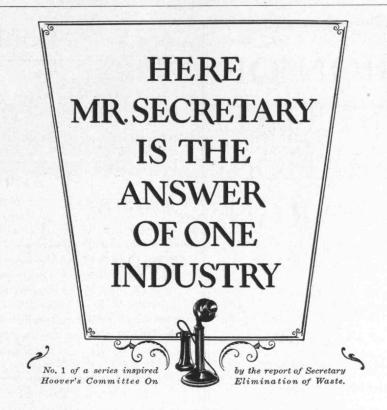
Technology Club of Hartford

The Technology Club of Hartford has held its regular two luncheons a month since October, 1927 - all of which have been noted for large attendance. There were twentyseven at our last luncheon held at the City Club, March 16, when we were addressed by Benedict M. Holden, special counsel for the State of Connecticut in the Connecticut-Massachusetts controversy over the diversion of the Ware and Swift Rivers into the water supply for the Boston Metropolitan District. GEORGE W. BAKER, '92, Secretary, Box 983, Hartford, Conn.

Technology Club of Rhode Island

The Technology Hockey Team has at last won a game! We saw them do a fine job on the Brown team at the Providence Arena on St. Patrick's Day. Twenty-two players and their retinue of coaches and managers were our guests at a real training table banquet at the University Club before the game. Thick slices of roast beef and foaming glasses of milk are not the usual banquet menus but they suited the teams and surely put pep in their game later in the evening. Between the courses, Norman MacLeod and Les Fletcher, captains of Technology Hockey Teams in '14 and '15 gave such glowing accounts of their exploits that the team was all on edge for the fray. I have since looked up the records of the two teams and I confess I can see nothing to brag about in their records. However, the exaggeration was in good cause and served its purpose even if the mark they had to shoot at was in the dim and distant past.

Having the teams for our guests was such a pleasant experience that I can heartily recommend the program to any other alumni clubs where Technology teams are to play. It certainly gives the teams a more homelike feeling to be greeted by an enthusiastic crowd in a strange city, and also gives the "old grads" a chance to tell about the time when Technology had real teams. Somehow we forget all about the defeats as the years tary, 661 Westminster Street, Providence, R. I. roll along. - WALTER C. WOOD, '17, Secre-



MEETING THE STANDARDS OF AN AUTHORITY

The business world has come to look upon the report of Secretary Hoover's Committee on the Elimination of Waste in Industry as an epochal document.

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All inquiries should be addressed to the
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Books

Continued from page 419



acquire a general knowledge of the methods of investigating the atom which will enable him to read intelligently more advanced treatises, and the current literature on this subject. In this connection, the final lecture, which deals with "Wave Mechanics of the Atom," deserves special mention.

MILES S. SHERRILL, '99

Books in Brief

THE LEGION OF THE DAMNED, by Bennett J. Doty. \$3.00. xv+298 pages. New York: The Century Company.

S Gilbert Clare, Mr. Doty of Mississippi, late member of the 30th Division of the A. E. F., enlisted June 12, 1925, in the French Foreign Legion and became a private in its Vingtneuvième Compagnie de Marche. He spent a year's active service in the campaign to subdue the Druses in Syria, his company winning the fourragère and he the croix de guerre. Then, becoming tired of roadbuilding and other peacetime fatigues of the Legion, he attempted to desert. A court-martial gave him eight years at hard labor, but this sentence was remitted through the efforts of the United States government and he was restored to duty.

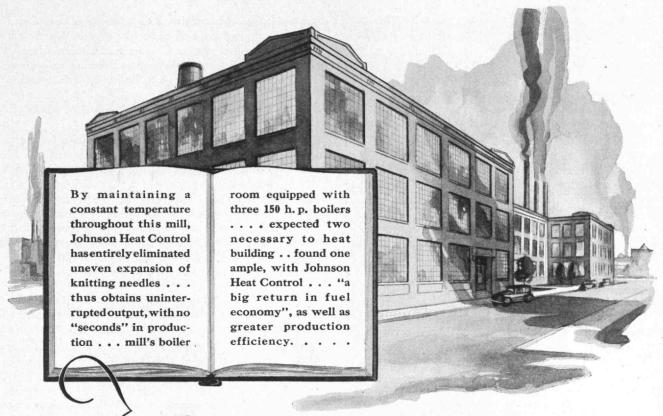
Subsequently, on December 1, 1926, he was discharged from the Legion and, believing that he would write of his experiences, his Colonel admonished him, "Try to tell the truth. It is true we are hard. But we are just. Nous sommes dur, mais justes." Since it has been Mr. Doty's desire to heed this advice, his picture of the Legion differs in many respects from the versions of de la Ramée (Ouida) and P. C. Wren.

SKYWARD, by Richard E. Byrd. \$2.00. 359 pages. New York: G. P. Putnam's Sons.

NTO this volume Commander Byrd has packed many of his flying experiences together with conclusions drawn from them regarding the future of aviation. His polar flights of 1925 and 1926, his trans-Atlantic journey of 1927, and his cherished hope to lead an expedition to conquer the South Pole by air are common knowledge. Less generally known, but equally worth the telling, are the accounts of his earlier associations with aviation at Pensacola and Halifax during the World War and with the preparations for the trans-Atlantic flight of the NC planes in 1919. He further relates how missing a train connection prevented his being aboard the ZR-2 when she fell into the Humber River, in 1921.

There is a vigorous defence of spectacular flights, provided they are made after proper preparation and with a constructive end in view. "I have constantly decried," says he, "such flights made purely for the sake of notoriety. . . . But I wish to say with all the emphasis with which I am capable, that tragedy from a spectacular pioneer flight should not be laid to the door of, or in any way affect, the progress of commercial aviation. . . . The pioneer risks his life to bring the unknown into the column of the known."

(Continued on page 448)



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PROBABILITY AND ITS ENGINEERING USES, by Thornton C. Fry. \$7.50. xiv+476 pages. New York: D. Van Nostrand Company, Inc.

Supposed to have anything to do with the Theory of Probability unless, perhaps, he be an actuary or a Monte Carlo croupier or a physicist interested in computing the sizes of atoms. Recent years have seen, however, the application of the theory to engineering problems in many large industries. The telephone business, with which the author of the present volume is associated, is one of the outstanding examples in its use of probability for placing its traffic handling problems upon a rational basis. One type of problem arises, for instance, when it is desired to know how much of a certain kind of telephone equipment "must be provided in order that the proportion of persons inconvenienced" by having to wait, say, "shall not exceed a certain amount." Similar problems arise in many an industry outside of the public utility field.

The book is in no sense a handbook or an easy road to mastery of a difficult subject. But Dr. Fry is a very lucid writer and the book has had the polishing that it received when, in the form of notes, it was used in classes held by him at the Bell Telephone Laboratories and at the Institute last spring. Brief reviews of the foundation algebra and calculus precede the more complicated mathematical theorems, which makes it appear likely to us that a patient reader would find it possible to work through the volume without assistance, provided that his lack of mathematical facility merely resulted from

not enough recent practice. The following chapter headings indicate the scope of the book: Elementary Principles of Probability; Probability and Experiment; The Distribution Functions most frequently Used in Engineering; The Theory . . . as Applied to Problems of Congestion.

SPORT STUFF, by Romeyn Berry. \$1.50. 94 pages. Ithaca: The Cayuga Press.

WITH some elasticity of statement, Romeyn Berry might be called a collegiate Will Rogers. From his post as graduate manager of athletics at Cornell University he observes with a twinkle in his eye the university life about him and frequently he contributes to the Cornell Alumni News a paragraph or so recording these observations. Two score of these, together with appropriate drawings by André Smith, have been collected into this slight octavo volume. There is humor, common sense, and sometimes wit in his squibs.

WILDERNESS ADVENTURES, by William Lyman Underwood, '98. \$0.80. vii+244 pages. Boston: Ginn and Company.

THE author, by photograph and by narrative, relates his experiences while hunting with a camera in the big woods of Northern Maine, in the Florida keys, and in the Bahamas. Considerable space is devoted to the sagacity of Joe, a guide of the Maine woods, and to his reactions to civilization. The author is a special lecturer in the Institute's Department of Biology and Public Health.

(Continued on page 451)

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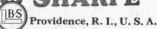


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Continued from page 448

THE NEW REFORMATION, by Michael Pupin. \$2.50. xvii + 273 pages. New York: Charles Scribner's Sons.

HOSE who attended Technology's Commencement exercises in 1926 will remember that Professor Michael Pupin of Columbia University delivered the principal address and that in it he had something to say about a favorite concept of his, "Creative Coördination." It receives a considerable amount of attention in this volume, and he assures us that "Creative Coördination is not a metaphysical abstraction; it is a familiar physical process which meets us everywhere.

... It is a physical operation defined in terms of definite physical laws." In spite of that, however, he does wander into the thicket of metaphysical abstraction, and, it seems to us, almost loses himself.

In the first five chapters he interprets for us the influence of Roger Bacon, Galileo, Newton, Faraday, and Maxwell upon modern scientific thought. It is in these explanations of electric waves, x-rays, and thermodynamics that Dr. Pupin is at his best. He succeeds in working into these passages the same touch of mystical enthusiasm for the "revelations of science" that made notable his autobiography, "From Immigrant to Inventor."

Boston Through the Ages, by Irving B. Crosby, '17. xviii + 166 pages. \$2.00. Boston: Marshall Jones Company.

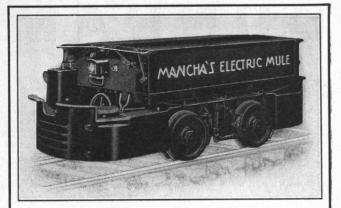
ETWEEN Arlington Heights and the Blue Hills lies the Boston Basin. Mr. Crosby has squeezed into this compact little volume several hundred million years of its history. His purpose is to explain in readable form why Greater Boston is "hilly in some places and flat in others, why there are rivers, headlands, shore and islands; to give the reasons for the existence and location of sand, Quincy Granite, Roxbury Puddingstone, shales, conglomerates and all varieties of soil and rock, and then to show how all these physical manifestations have influenced the history and daily life of the people who have lived and who now live in this section of Eastern Massachusetts."

Designed primarily as a text for school children, it is not without interest for adult readers as well. It contains a bibliography, an index and nearly half a hundred illustrations.

ARTIFEX OR THE FUTURE OF CRAFTSMANSHIP, by John Gloag. \$1.00. 111 pages. New York: E. P. Dutton and Company.

a plea and an explanation of machine crafts. The author suggests education as the means by which we may get a proper view of this often unappreciated and much misunderstood influence upon modern life. He begs us to see that machinery can provide adequately for our needs, urges that we coördinate the hand crafts and machine crafts, and then gives glimpses of the many horrors of which the machine is capable of perpetrating if we handle it unintelligently.

One gathers that the machine crafts cannot do without the real craftsmen, the hand workers: "those who (Continued on page 452)



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Continued from page 451

worship fine workmanship and are sincere and honest in the love of their craft are mistaken in their renunciation of their own time," and are loath to ally themselves with the advancing mechanical age.

Mr. Gloag points out that a machine craftsman has less interest in the material he works — and, therefore, the product — than he has in the machine which is working for him. He declares that the average machine worker wants a job in which he does not have to put forth much physical effort, and above all one in which he does not have to think. He emphasizes the deadening effect of working endlessly at some small job in the vast business of producing any one article by machine, as well as other condemnations of a highly organized system of production. Yet he predicts a future for the thing, without so much as intimating wherein its greatness lies. Perhaps his glorification of electric light bulbs, clean white unpretentious paper, and typewriters gives us a clue. Much incidental material, many suggestions and vague allusions obscure the reader's understanding

THE ROMANCE OF THE ATOM, by Benjamin Harrow. \$1.25. 163 pages, New York: Boni and Liveright.

TERE is explained in simple language the development of atomic theory as seen through the eyes of the chemist. Mr. Harrow dedicates the book to Dr. Irving Langmuir and describes the latter's work in building up a satisfactory atomic theory for the chemist. In his last three chapters he strays afield and reviews the comments that modern writers have offered upon the chemical origin of life and the position of the scientist in the political scheme of his country, especially as it applies to his conduct in wartime.

Text Books

of his point of view.

STEEL AND ITS HEAT TREATMENT, by Denison K. Bullens, '09. \$5.00. xiii+564 pages. New York: John Wiley and Sons, Inc.

This is the third edition of Mr. Bullens's book. He discusses the metallurgy, engineering applications, and production methods of steel and the alloy steels.

AN INTRODUCTION TO ELECTRICAL ENGINEERING, by John Robert Benton. \$3.60. xi+347 pages. Boston: Ginn and Company.

ELEMENTS OF MACHINE DESIGN, by James D. Hoffman and Lynn A. Scipio. \$3.80. 327 pages. Boston: Ginn and

These are two of a series of engineering text books edited by A. A. Potter, '03.

WIRELESS PRINCIPLES AND PRACTICE, by L. S. Palmer. \$7.00. xi+504 pages. London: Longmans, Green and Company.

THE MANUAL OF INDUSTRIAL SAFETY, by Sidney J. Williams. \$2.50. viii + 207 pages. Chicago: A. W. Shaw.

MATHEMATICS FOR AGRICULTURE AND ELEMENTARY Science, by Roe, Smith, and Reeve. \$2.80. v+354 pages. Boston: Ginn and Company.

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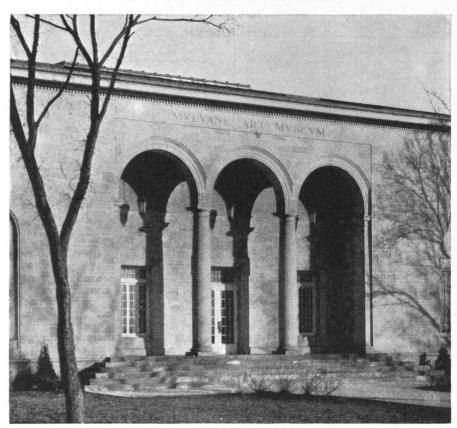
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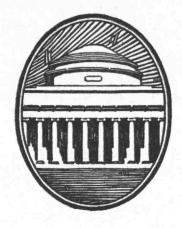
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